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THE AUTOMOBILE

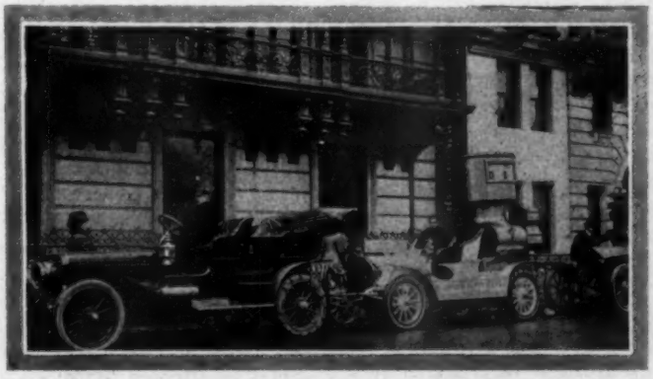
GARDEN SHOW SUPPLIED GRATIFYING RESULTS

NOW that the "Ninth Annual National Automobile Show" held in Madison Square Garden is a thing of the past, a résumé of the results it served to accomplish is in order. It goes without saying that it was not alone the largest aggregation of the products of automobile builders and allied manufacturers that the big amphitheater of the Garden has ever housed in its show career, but it also proved to be the most successful event of the kind that has ever been fostered by the Association of Licensed Automobile Manufacturers in every other respect. Take the matter of attendance as a single item, as this is a factor upon which the success of any exhibition is largely dependent. Despite the fact that the entire week was marked by weather conditions that were far from ideal, the number of people who visited the show during the seven days its doors were open was put down as over 116,000 in round numbers—a total that exceeds by a very substantial percentage anything that has been approached in the show history of the Garden in the past.

Society Arrival at the Show.

Nor, as has been the case at previous events of the kind in other years, has this figure been arrived at by estimating the average attendance. Colonel George Pope, chairman of the Show Committee of the A. L. A. M., was in receipt of the figures for every morning, afternoon and evening crowd of each day of the week, and it was not difficult for even the uninitiated to note that the masses which surged up and down the unusually broad aisles and filled every available square foot of space in the balconies and galleries, were far and away greater than any similar event has ever attracted to the interior of the Garden, or any industrial exhibition heretofore contained in its capacious auditorium and galleries.

"Undoubtedly, the weather militated to a certain degree against the attendance," said Colonel Pope, "but it is improbable that any great percentage of those who remained away were either users or prospective purchasers of automobiles. I am certain that every exhibitor will join me in stating that a larger proportion of the week's visitors were people actually interested in the cars displayed than has ever been the case heretofore. No better proof of this could be cited than the great familiarity displayed, not alone with the principles of automobile construction in general, but with many of its finer points, by the average caller who was sufficiently interested to request information from the attendants at the various exhibits, and the number of persons who did so was so great that it was impossible for the numerous salesmen on hand to properly take care of more than a fraction of those who were really seeking enlightenment to aid them in the selection of a machine. Considered as a business proposition, the automobile shows of former years have been held almost entirely for the benefit of the manufacturer and the dealer, but this year the actual user of the car was the predominant factor." This idea was very generally shared.



Demonstrating Cars in Waiting Outside the Garden.

Of an importance even greater than that of the attendance, in its bearing upon the successful outcome of an automobile show, is the amount of business done by the various exhibitors during the week, and in past years it has been customary to swell the figures to a very large extent by adding the totals of many prospective agency contracts that frequently failed to materialize. In this manner the volume of business done was made to appear truly phenomenal. Selling conditions in the automobile field, however, have been brought down to a business basis in the last year or two, where it is no longer necessary to resort to such means to make the sales appear larger than the reality. The actual facts are such that the real figures call for no exaggeration, so that the thousands of dollars worth of cars and accessories that is given as the net result of the week's business may well be regarded as a conservative estimate of what was really transacted. Exact figures are not obtainable; guesswork is left out. But what must have been a huge total affords a striking illustration of the truly vast proportions that the automobile industry has now assumed, while the manner in which it was divided among the different interests assembled in the Garden serves to give some idea of their relative standing. The chief factor in the make-up of this amount was naturally composed of the sales of complete cars, denoting interest unquestioned.

Much of the increase in the volume of business done at the Garden during the week of the show, as compared with previous years, was generally attributed to the fact that buying during the Spring of 1908 was necessarily very light, owing to the conditions then prevailing, while many who were in the market for cars in the Summer or later, deferred their purchases until the advent of the show should provide an opportunity of examining offerings of best known makers under one roof.

SOME GOSSIP OF THE SHOW.

"Are You Afraid to Show What's Under It?" —To put a check on the ubiquitous meddler who insists on lifting the hood of every car he gets near, just to show his friends that he knows all about its mechanism, the Winton Company put small locks on the hoods of all cars in the Winton exhibit. The result was to preserve the finish of the bonnet and forward part of the dash from scratches and the bonnets were not half on and half off as was usually the case where they were meddled with, but some of the over-curious ones jumped to conclusions and asked, "Are you afraid to show what's under it?" before noting that one of the features of the Winton exhibit was a polished chassis, showing all the internals of the car. It was in the center of the booth, and was usually lost to sight in the crowd, so in that respect at least the curious ones were probably excusable.

Waldron Remembered by Packard Dealers.—At the annual dinner tendered by the Packard Motor Car Company to its agents at the Knickerbocker on Wednesday night of show week to Sales Manager S. D. Waldron was presented a silver service by the dealers as an expression of the appreciation of his work in upbuilding the retail sales end of the Packard, as well as of his efforts at the factory. The presentation was made by Clarence Godschalk, of Philadelphia. The dinner tendered to the dealers by the Packard Company is an annual fixture of show week. It was followed by four playlets presented by Miss Stella Mayhew and company. These were specially written for the occasion, and included impersonations of the different Packard dealers present. It would be difficult to furnish a better illustration of the harmony with which every member of the Packard organization works with his confreres, whether in or out of the factory, than this annual gathering.

"Nothing New at the E-M-F."—It was the boast of the attendants at the exhibit of the E-M-F cars during the early part of the week that they had absolutely nothing new to show. There were no novelties, no revolutionizers, and no world-beaters on the E-M-F car; in brief, it represented nothing but the very best standards of current engineering practise throughout. Then some genius came along and surprised one of the E-M-F salesmen by telling him he had the newest thing in the show. This is the convertible top for a surrey or two-seated runabout, and is something that top makers have been trying to evolve ever since the new three and four-seaters came into vogue.

Coker F. Clarkson, whom everybody knows as the able publicity department head of the A. L. A. M., should be given special mention for the very efficient way in which the special publicity side of the exhibition at the Garden was pulled off. That Mr. Clarkson furnished a vast amount of clear and explicit mechanical material for the press and general publicity purposes is too well understood to require more than the merest mention. The new "Handbook of Gasoline Automobiles" is one of Mr. Clarkson's most recent efforts, in which will be found an illustration and concise specifications of every automobile turned out by members of the A. L. A. M. This is a work of art embodying the greatest utility from the point of view of the prospective purchasers of automobiles.

"Oh, About 180 Degrees or So."—Paul Lacroix, sales manager of the Renault Freres Selling Branch, was accosted at the show by a friend in search of information regarding a two-cylinder taxicab motor, a description of which recently appeared in *Omnia*. "It would appear from this description," said the searcher after information to Mr. Lacroix, "as if the crankpins of this two-cylinder motor were set at 180 degrees. Do you know if that is the case?" "Oh, yes," answeered Mr. Lacroix, "it is somewhere about there; something like that."

"Foolish Question No. 4396."—One of the features of the *Evening Mail* at present is a running series of cartoons depicting the asinine tendency of the average individual to ask if you are going out when he sees you putting on a hat, overcoat and gloves, or if you are going fishing when he notes that you are burdened with piscatorial paraphernalia and are headed for the creek. If the artist responsible for the sketches could have put in a few hours at the exhibit of the Royal Tourist he would doubtless have accumulated a fund of automobile foolish queries that would shortly bring his series into columns of six figures. "Oh, they use the steering post for a horn," is one that became common at the Royal booth. "No, that's the internal expanding brake," pointing to the two big bronze hands studded with cork inserts, "and this is the emergency over on this side," indicating the sprag and its teeth on the brake drum. "Never put on your emergency till you have to and then use it good and plenty," was the sage advice gratutiously added. "My, that's just like a miniature reproduction of the old Packard reverse lever," is another that crops up every time a new one sees the small auxiliary lever intended to bring the sprag into operation, while "What are those lumps on the brake shafts?" has become classic. The new ignition bus bar carrying both magneto and battery terminals is responsible for another lot of its own, and so on *ad lib.*

"Human Nature's Tendency."—The universal tendency of human nature to finger things was very cleverly utilized by the Republic Rubber Company at the show. Close to the rail which separated its booth from the passing public, the Republic people put a partly finished Republic tire. From each of the rubber studs projected a little spear of rubber about two inches long, giving to the tire somewhat the appearance of a cactus plant. Every man who passed that way seemed to have an almost irresistible inclination to catch hold of these little rubber ends and snap them. That moment gave the salesman an opportunity to explain that this is the result of the peculiar way in which the Republic tire is molded, which makes an inseparable union of the rubber with the canvas carcass. Hundreds of people stopped who otherwise would have passed by and a large number of sales resulted.

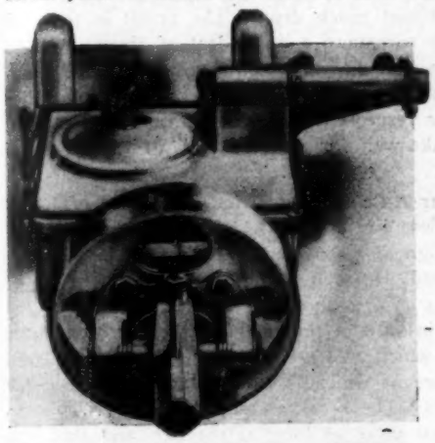
"What Car Is That Going On?"—One of the striking features of the Heinze Electric Company's exhibit was a monster four-unit coil as big as a young trunk. It operates spark plugs a foot high with gaps of fully an inch, and when it is going is sounds like nothing so much as the valve action of an old-time four-cylinder engine that had seen much service. "What car is that going on?" was the query that it was responsible for, while as a corollary there came, "Is that the spark that really takes place in the cylinder?" "Yes, they're in parallel, was one of the bright answers to a query regarding the Heinze analogue showing the crankshaft and pistons of a car, to which was attached one of the new Heinze magnetos and a set of plugs, showing how it could be operated merely by turning a small crank slowly. "Just the thing for a four-cylinder motorcycle," was another anent the overgrown Heinze coil.

"Do You Build the Chassis, Too?"—One of the exhibits on the north side elevated platform of the Garden that attracted quite an amount of attention from the uninitiated observer was that of the Springfield Metal Body Company. A great many of the visitors who were not familiar with automobile construction could not exactly fathom the wherefore of the numerous types of separate bodies that were displayed on low stands, and quite a few of them were not averse to making inquiries to satisfy their curiosity. As a result, the question, "Do you make the chassis, too?" became a standard at the Springfield exhibit, and Hinsdale Smith, president of the company, said that he would be tempted to have a placard painted reading, "No, we don't build the chassis; we build automobile bodies," and post it conspicuously, had not the regulations of the show prevented.

CONSPICUOUS FEATURES ON CARS AT THE GARDEN

By THOMAS J. FAY.

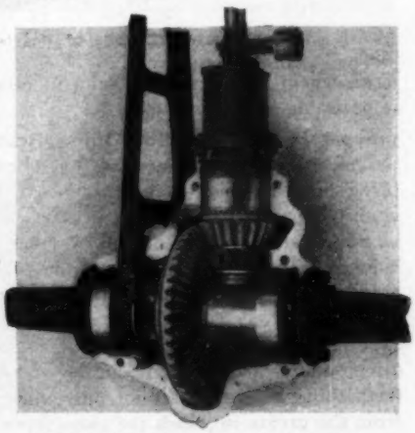
Brake-drum on the Propeller Shaft.—In the Pope-Hartford it is to note that the brake-drum on the propeller shaft is a die pressing of steel, and that the driving member of the universal joint is bolted thereto. It is a very neat arrangement that should be very satisfying to the users of cars. The drum is of adequate diameter, and the face of the brake-shoes is adequate, considering the location and the speed of the drum. A glance at the illustration will disclose the fact that the propeller shaft is fitted into a square, and the whole situation is one that augurs for a low cost of maintenance.



Pope-Hartford Brake Drum on Propeller Shaft, Showing Universal.

Cadillac Oils Universal Joints with a Stream of Oil.—It is a source of regret not to be able to illustrate the manner in which the Cadillac universal joints are lubricated. It is a well understood fact that a universal joint is a common nuisance if it is not oiled, on the ground that dirt will get in if oil is not there to keep it out. In the case of the Cadillac, it is a case of oil, constantly replenished, and there is no chance of dirt to make its way into the joint. Even so, it is a fact that the joints as used in this make of cars are with large bearing surfaces, and the radius at which the pressure is applied is great enough to limit the pressures.

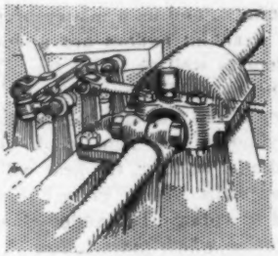
The Royal Radius-Rod Is as a Lattice Girder.—An illustration of the radius-rod on the Royal type of chassis is well worth the attention of the spectators who want to become familiar with the question of the design of automobiles. In this case the radius-rod is as a lattice girder, and, as is well understood, this is a very good way to get all there is in a given weight of steel for a given amount of work to be done. The girder is in the plane of strains in such a way as to work the metal to the greatest advantage, and the extreme fiber strain is held low enough to assure safety.



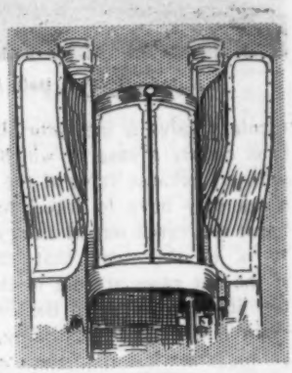
Royal Tourist Rear Axle, Showing Radius Rod.

Planetary Gear of the Hewitt Trucks.—As will be remembered, the Hewitt trucks are very large indeed, intended as they are for the roughest service, and to take all the merchandise that the platforms will hold, piled up as high as the nerve of the truckman will indicate. The planetary gears used are with a view to safety, under severe conditions, and the Hewitt Company indicated how well the planetary gear system answered the purpose by showing a set of gears which had done service for a long time without taking the tool marks out of the gears. The gears are of alloy steel, and the construction is such as to avoid all the ills of keys, and the little details which, in many cases, made planetary gears a source of annoyance. Edward R. Hewitt simply demonstrated that planetary gears can be made to serve the purpose in the hands of unskilled labor, with small chance of damaging either the gears or the power plant.

1909 Mud-guard Construction Is Satisfying.—The idea of completely protecting the chassis from the mud which is bound to splash up and fly off the road wheels is so good that none of the cars of the year have neglected to do something along the same lines. The illustration here given is of the Knox, and while each company had its own way about the details, yet even so it is well to call attention to the plan, and in the Knox the protection afforded is adequate for the purpose.



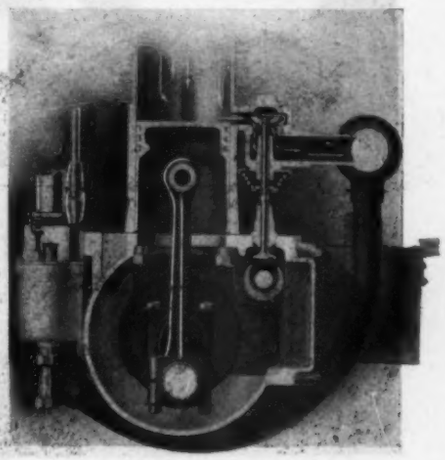
Foot Brake Equalizing Device on Simplex.



Mud Guard Construction Shown on Knox.

Brake Equalizers on the Simplex.—As is well understood, it is quite out of the question to get any good out of a set of brakes on the rear wheels unless the set of brakes act through an equalizer in such a way as to assure that the pull will come on the brakes on both the rear wheels at the same time, and in such a way as to be equally effective in point of pressure on both wheels. In the Simplex this matter is taken care of in a very good way, and the space required for the device is but little. The idea is adequately illustrated, and the device has been in use so long, and worked so well, that it is now regarded as a standard idea in automobile work.

Supplementary Valve on Franklin Motor.—This is not new, nor is it so well understood as not to be a fair subject for further discussion. The illustration given shows the manner in which the Franklin air-cooled motor is provided with a supplementary exhaust valve at the bottom of the stroke to help scavenge the motor and rid the cylinders of the hot gases at the earliest instant after the work of a useful nature is wrung out as completely as possible from the expanding products of combustion. That the Franklin air-cooled motor has been a uniform success from the start is one of the certainties of the automobile situation. That it is in a large manner due to Franklin thoroughness must be the case, in view of the fact that the air-cooled situation has not been a bed of roses. As will be observed, the supple-



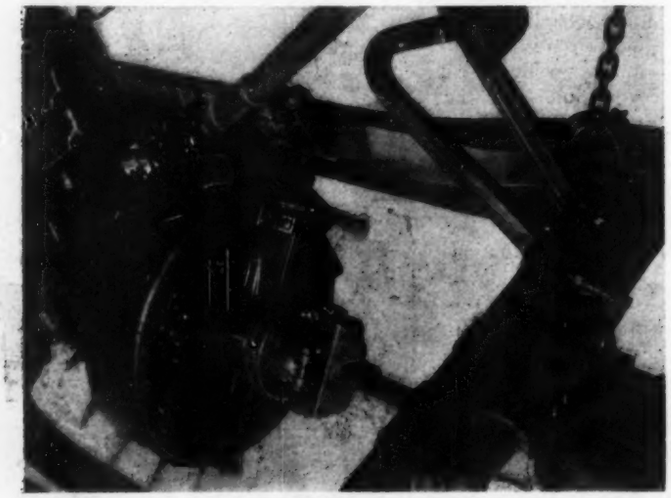
Franklin Auxiliary Exhaust

Automatic Fan Belt Adjuster on Stevens-Duryea.

mentary valve is mechanically operated, and as a matter of fact it is clearly a case in which the Franklin motors are provided with an exhaust valve at the bottom as well as at the top. The gases only have to travel half the usual distance, and the exhaust is cleared out of the cylinder in the shortest possible time. It is in this way that the cylinders are kept cool, since if the hot gases are not in the cylinder so long, the heat will be less likely to cling to the cylinder walls. It is, in fact, just a plain case of good reasoning, and it works. The added complication is far less than the complication which must follow if the air-cooled motor should fail to work and water-cooling should have to be resorted to.

Details of Thomas Six-cylinder Motors.—A look at the illustration will disclose the fact that the fan is on the periphery of the flywheel, which is an idea with a lot of good meat in its makeup. While the illustration is available, it will be at a profit to look at the universal joint and see how it is incorporated; it lies just back of the flywheel. This same illustration shows the foot-pedals and the swivel joints which attach the "pads" to the pedals. These are all refinements characteristic of the Thomas, and in conclusion it is the purpose to call attention to the wide flange on the chassis frame, just back of the flywheel, at the bend. The laterals are also of good dimensions, and on the whole it is evident that the Thomas is a car of some nice details.

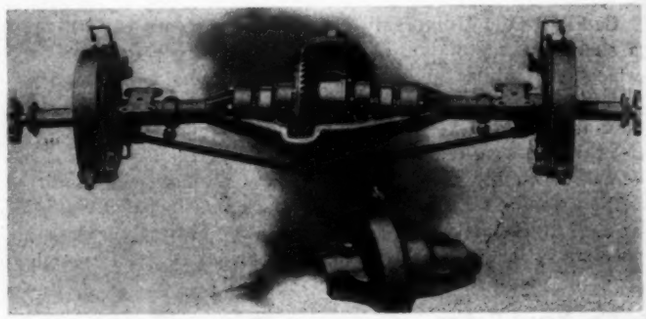
Adjustable Fan on the Stevens-Duryea.—There is a great difference as between a fan belt which has to be taken up by the process of cutting some of the belt out, and the manner in which the plan is worked out on a Stevens-Duryea, as it was seen at the Garden. The illustration here given shows the manner in which the belt is adjusted, and as an incident it may be well to call attention to the use of a wide belt on the fan. The fan itself is different from fans in general in that it is of extra diameter and the blades are narrow. It is claimed that this fan will handle more air than the fans of the conventional design; air is what is wanted in this situation.



Fan Outside of Flywheel on Thomas Cars.

Chassis Frame of Selden Automobiles.—It is interesting to note that in the chassis frames of the Selden cars the frame runs out towards the front, maintaining the depth to an unusual degree and without much drop. The result is that the frame is in shape to withstand a good deal of abuse, even to the extent of end impact, due to a collision. The general appearance is good, and it is assured that there is much of utility in the idea. In other respects the frame is quite up to a fitting standard, and it speaks well for the cleverness of the designing staff of the company.

Peerless Live Rear Axle Construction Impresses.—The illustration of a Peerless live rear axle will adequately disclose the principles of design and construction which have stood the company in good stead. As will be observed, the "strut" is of such good dimensions as to assure long service. This is of the greatest importance, in view of the fact that there are examples of live rear axles in which a "strut" of small diameter is placed to do work, the nature of which is so arduous as to defeat the aims of the designers. The bevel gearset in the Peerless is so nicely made as to last quite as long as the car, and this is a matter of the greatest importance. The accessibility of the parts



Construction Details of Peerless Rear Axle.

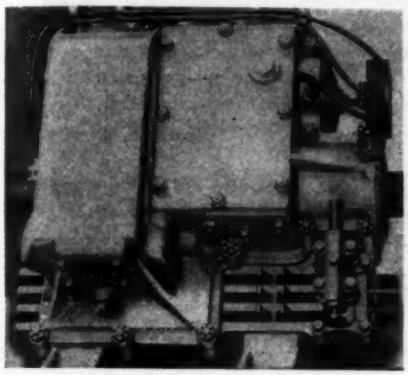
is shown in the illustration, and in other ways the construction is desirable in the extreme.

Separate Provision for Oiling Bearings in Transmissions.—The exterior of a Peerless transmission gearset is shown to bring out the point to be made. As will be understood, it is almost impossible to keep the grease which is placed in the gearbox from seeping into the ball or roller bearings. This grease is ladened with the chippings from the gears, and it is anything but a lubricant. In the case of the Peerless this question is taken care of in a way which must attract the notice of the autoist of experience. Each bearing is fed from an oil pipe, led to it direct, and from the prime source of lubricating oil. The result is that the bearings are not only oiled, but they are kept free from the grease in which the chips from the gears will be found. The reason for this lies in the fact that the oil is always entering the gearbox, and as it enters it drives the grease before it in such a way as to keep the bearings washed. Incidentally, it is fair to assume that the gears will be kept profusely lubricated by the same oil, and on the whole it should follow that the transmission will be free from undue depreciation.

Low-Tension Ignition System on Locomobile.—In the case of the Locomobile the company makes the magneto, and the type is of the low-tension genera. The system was devised in 1905, and it is now in a high state of perfection, although it is true that it has been a good success from the start. The illustrations afforded with this discussion will give a good idea of the manner in which the details are worked out, and that the low-tension system is of excellent value, if it is free from mechanical defects, is a self-evident fact. The make-and-break is very simple, as is shown, and the "iridium" contacts used

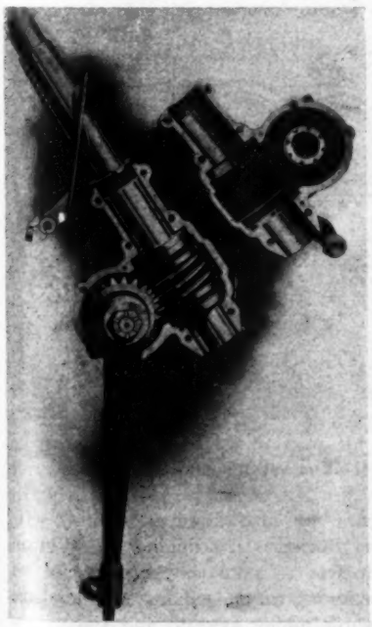
last for a long time. Because of the nice way in which the mechanical details are worked out, the system is free from the trouble of frequent timing, which was the main question in former times in connection with some of the low-tension systems.

Distance Rods on Shaft-drive Locomobile.—As a rule it is the custom to see shaft-drive cars with radius rods which extend up to the axis of the whole motion as it rotates around the universal joint at the upper end of the propeller shaft. In the new Locomobile distance rods are used just as in side chain drives. The idea makes for great flexibility in the Locomobile, and the car is so thoroughly worked out along lines taking into account the question of flexibility that it is bound to serve as a school of design. A. L. Riker, chief engineer of the company, showed that he could do something by way of originality when he delivered the automobile that came home first in the Vanderbilt race.



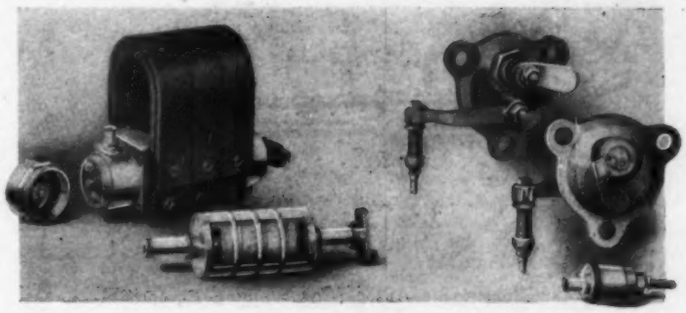
Peerless Separate Oiling System for Gear Box Bearings.

Rear Axle on Stearns New 15-30 Model.—It has been quite some time since the exhibitions of automobiles disclosed anything quite so novel as the new Stearns live rear axle, an illustration of which is here given. In this case, the differential housing is provided with bolting pads which fit on suitable faces on the bow of the axle. The axle itself is of tubular section, from the extremities to a point inside of the spring perches, and as the axle recedes from the perches it is joined by an I-section elliptic formation, the two branches of which are in the same vertical plane. In this fashion the differential and the bevel drive are supported by the axle so formed, without any tendency to put strains on the housing, beyond the torsions due to the torque of the propeller shaft, and the resistance offered by the live rear axle members. The axle is of great strength, and all the shock is taken by the kinetic material of which the axle is made, instead of having to transmit through the castings of the housing. The construction is light, the appearance is a little strange, yet it does look healthy, and the patrons of the industry take kindly to the idea on the ground that what looks good is good. The springs on which the chassis is suspended take the torsion of the axle, and they, in turn, are 2½ inches wide, of alloy steel, hence adequate for the purpose of springs and maintaining axle position.



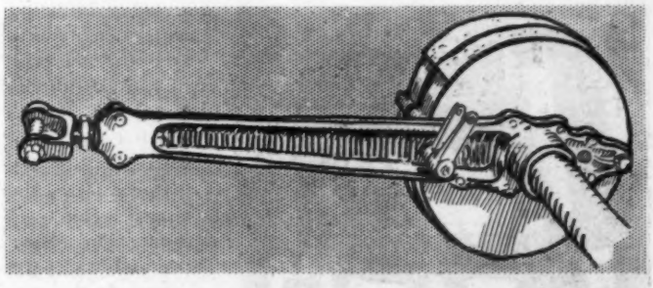
Ball Bearing Worm and Gear Peerless Steering Device.

Oxy-Acetylene Apparatus for Cutting Steel.—In crankshaft work, if the crankshafts are not die-forged, it becomes a serious matter to be able to "slab" the steel and thereafter extract the shape of the crankshaft from the slab. The Davis-Bournonville Company had at the show all the equipment necessary for the purpose, and, too, the question of "autogenous welding" was illustrated sufficiently for the purpose of enabling the average autoist to reach the conclusion that he can have his repairs done by the process in a very efficient manner. This is one of the present year's distinct advances, and it is of such great importance as to merit special mention in connection with the discussion of the advances in automobiles. Certainly it is an advance in automobiles to be able to make repairs in some cases without even taking the parts to be welded out of the nest in which they belong.



Locomobile Low-Tension Magnetos with Igniters.

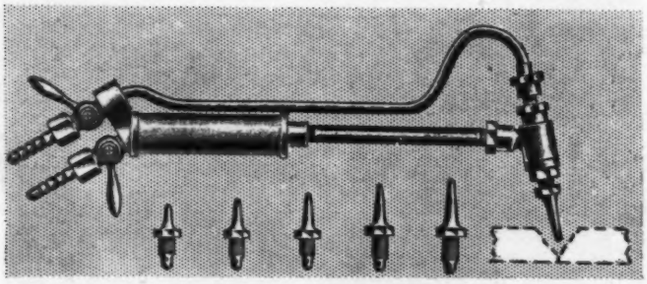
Elmore Two-cycle Motor in Modern Chassis.—The motor was illustrated during the show, and favorable comment was made on the good performance of the power plant. While this is a question of the utmost importance, it is a fact, nevertheless, that the plant should be protected, and a glance at the illustration will show that the Elmore designers are alive to the needs. In this case the apron extends back of the gearbox, and the levers, as well as the linkages, are all protected from mud. The equalizer for the brakes is in sight in the illustration, and that the plan is of more than ordinary merit is assured. As will be observed, the power plant rests on a sub-frame, and a straight-line drive is one of the Elmore features. The polished chassis of the Elmore at the Garden was one of the sights of the show.



Locomobile Radius Rod Carrying Brake Mechanism.

Influence of Tires on the Cost of Trucking.—The "biscuit" tires on the Hewitt trucks made more of a commotion in

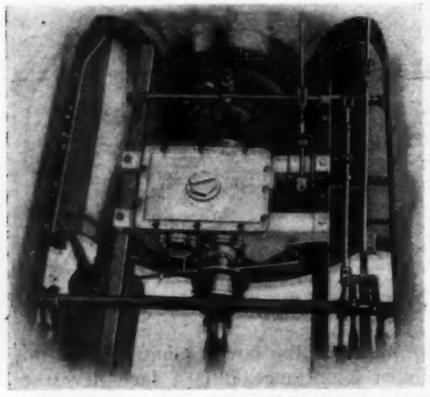
Stearns 15-30 New Rear Axle Construction.



Davis-Bourneville Autogenous Welding Equipment.

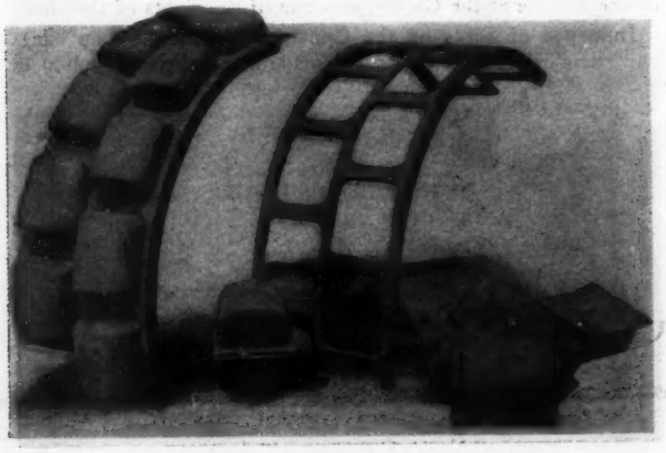
some ways than any other one idea of prominence at the show. In the first place, the trucks are large, and again the wheels do not look quite so large as they would were the tires of the usual solid construction. These "biscuit" or "block" tires are best understood by examining them, and the next best plan will be to look at the illustrations as here given. The blocks are symmetrically disposed around the rim, and are held in place by plates of the desired shape, which allow the projecting blocks to stand out radially, thus enabling the blocks to do the work while the plates hold them in place. The tire question has been a serious matter in trucking service, and it is assured that the block idea is a vast improvement to the service.

Figures, taken from data gathered during five years' operation of a two-ton Hewitt truck, show that the tires are not the one big item in the maintenance by any means. The total cost per year was found to be $2,890, with such items as $500 for depreciation, $900 for labor, and others which together with the $400 for tires completed the annual cost account. This shows that only 13.84 per cent. of the expense was borne by the tires.



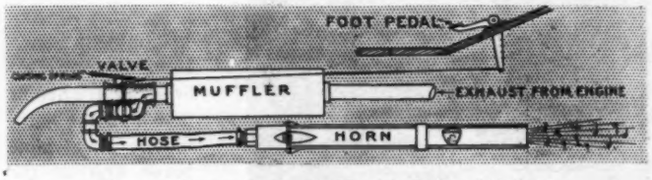
The Elmore Clutch and Gear Box.

Gabriel Exhaust Horns Provided for in Cars. — Formerly it was the custom to design automobiles with never a thought of the accessories, and the means for their proper application. This year, it is not uncommon to locate all the means for the ready application of the accessories, even in the cars that do not include such accessories at the initial selling price. Take, for illustration, Gabriel horns: they work from the exhaust, taking into account the muffler, and in many cases the designers of the automobiles have arranged for the connections of the horns. This is a good idea, even though the cars may be put out without the horns. With all the provisions, it will then be possible for the buyers of the cars to do as they see fit later on, and the cost of the option is as nothing.



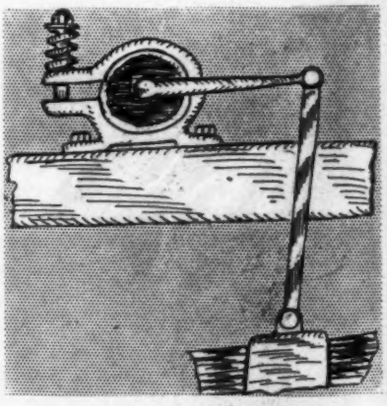
Rim and Treads of Consolidated "Biscuit" Tires.

Perfection Springs.—The Perfection Spring Company showed a line of chassis springs in all the usual forms in which the question of the material is given the greatest possible attention. In the better class of the springs turned out by this company, it is Krupp steel that is used, the properties for which, for the purpose, are vouched for by the large number of the better class of automobiles in which they do service. This Krupp steel is a high silicon product, and as a rule the spring makers who do not understand how to handle such fine materials fail to deliver the good results which follow the use of Perfection springs. At the company's booth was to be seen some of the modern springs as used on the noteworthy cars at the Garden, such as the Stearns line of cars. These springs are 2 1-2 inches wide, of very artistic shape, and the easy riding qualities of the Stearns car speak well for the design and quality of the springs used. In some cases the springs, as shown, indicated the suppleness, which is essential to good service, without the excess "bounce," which generally does follow the adaption of what is best described as a "sloppy" action. In a word, it is a case of limited suppleness, and a gradual snubbing of the body motion.



Plan of Connections of Gabriel Exhaust Horns.

Winton Shock Absorbers Are Self-Sustaining—Among other Winton features is the shock absorber of the company's make. The illustration of this absorber will show that it is a fixed brake-drum secured to the chassis frame (one on each side of the car, over the rear axle), on which drum will be found a brake band and a lever system to take advantage of the friction of the band on the drum. The band is fitted with a take-up, actuated by a spring in such a way as to compensate for wear. The scheme is neat in design, yet even so the fact remains that the adjustment is of a permanent character, so much to be desired in shock-absorbers. Incidentally, it is worthy of note that the Winton cars are also fitted out with "self-starters," and a tire inflating device. In scanning the Winton exhibition at the Garden, it was to note the high degree of finish and the careful proportioning of the exhaust and mixture manifolds, as well as the water piping system, and since it is generally well understood that the efficiency of an automobile motor is much affected by the dimensions and design of the manifolds and the piping, it is equally easy to understand why the Winton "Six" is a powerful as well as a noiseless performer. It is not difficult to make motors perform quite noiselessly, but it is generally appreciated that the noiselessness is at the expense of power.

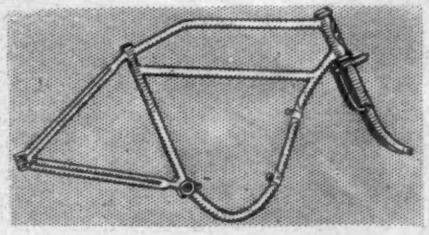


The Winton Shock Absorber.

EASE AND COMFORT BIG MOTORCYCLE FEATURES

THE great, in fact, one might almost say the abnormal, interest manifested in motorcycles in the past year culminated very properly in the excellent exhibit at the Garden show. This was one of the best and probably the most complete exhibitions of this class of vehicles ever seen. Such being the case, it is an easy matter to notice the salient points, or perhaps it would be better to say the general trend. This seems to have taken the way of ease and comfort.

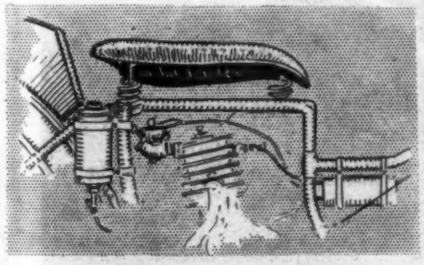
Perhaps these were an outgrowth of the increased attention given to this form of locomotion; possibly the latter was but the effect of the former. In any case, the proof of the statement is a simple matter of mentioning details, regardless of which was the cause and which the effect.



New Loop Frame in Detail.

Prominent among the improvements which make for increased ease and comfort is the new loop frame. This differs radically from the old diamond frame, which was an outgrowth of bicycle construction. It adds strength and great rigidity without adding to the weight, while the easy curve of the lower tube forms a strong natural cradle for the motor. The old diamond frame put the rider in one set position, rather high and far forward, while this newer creation allows of the seat being carried farther back and lower. The effect of this is to lower the center of gravity, thus increasing the stability and making the machine ride easier.

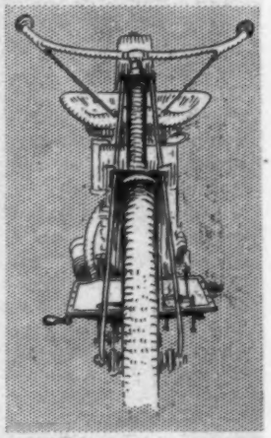
Then there is the matter of seats. Most of these are altered over the former bicycle seats; in fact, so much so that the indications of the old bicycle type are even difficult to find. The width has been greatly increased, and, added to this, the distance between supports or length of the leather has been stretched out. This, coupled with the width, has materially increased the ease of riding. A newer idea, even than this, is the form seat. This is very wide, flat, and comfortable, being correctly formed to the shape of the body. As worked out in the cars it is made from sheet steel, pressed into the correct anatomical shape, upholstered with a large, thick, hair and leather cushion. Over and above the shapes is the springing of the saddles. All of them are spring suspended, the springs being three in number, first the flat spring of the body of the saddle, second the main coil spring of the rear part, and third the small auxiliary or supplementary coil spring at the rear. This combination of well-adapted springs, in combination with the improved shapes, has done more to eliminate saddle soreness or saddle fatigue, as it is variously called, than any other one thing. In so doing the good cause of ease and comfort was advanced apace.



Easy Riding Form Seat.

Another part of the construction to which much time and attention has been given in the attempt to make the roads ride like velvet, is the front fork. This works out in various ways, in the spring fork, in the piston arrangement, and in the link mechanism. The first is the most numerous if mere numbers indicate anything, but most of these, as is natural, differ. There is the barrel arrangement with 2 feet or more of spiral springs inside, which in combination with additional rebound springs works very nicely. The other ways of working this out include an arrangement in which the lower section of the fork is connected with the head section by means of a strong hinge joint suspended between springs. An adjustment on these allows of any desired tension, thus adapting the cushioning effect to the weight of the rider and the quality of the road.

The girder frame is an adaptation of this in that a sort of light, flexible king post truss is used, each lateral member of this being in reality a spring. All these, to cut a long story short, eliminate vibrations of the front end of the machine, and consequently make the natural riding strains on the arms less. There never has been a word or phrase coined to express these strains and the resulting fatigue, but that it exists after a very short ride, any motorcycle advocate will prove.

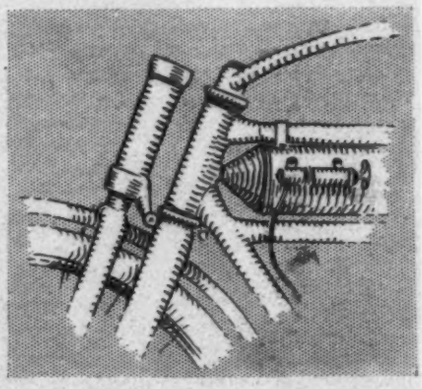


Front View of Foot Rest.

The arms, body, and seat having been properly cared for, there remained only the feet and legs whose comfort had not been looked up. This has worked out in several forms, one of which, the footrest, is very simple. It takes the form of a pair of extra fixed pedals set on a stud forward of the regular pedals about six inches. In use, when a rider's legs tire of the normal position, the feet are lifted from the regular pedals and placed on the extra fixed pedals. Besides the change of position, the latter are so placed as to afford rest to the tired members.

Another and perhaps a better outcropping of the same idea is the fitting of a footboard or running board. This has width and length, so that the whole foot is rested in a manner that is impossible with the narrow pedal accommodating only a portion of the ball of the foot.

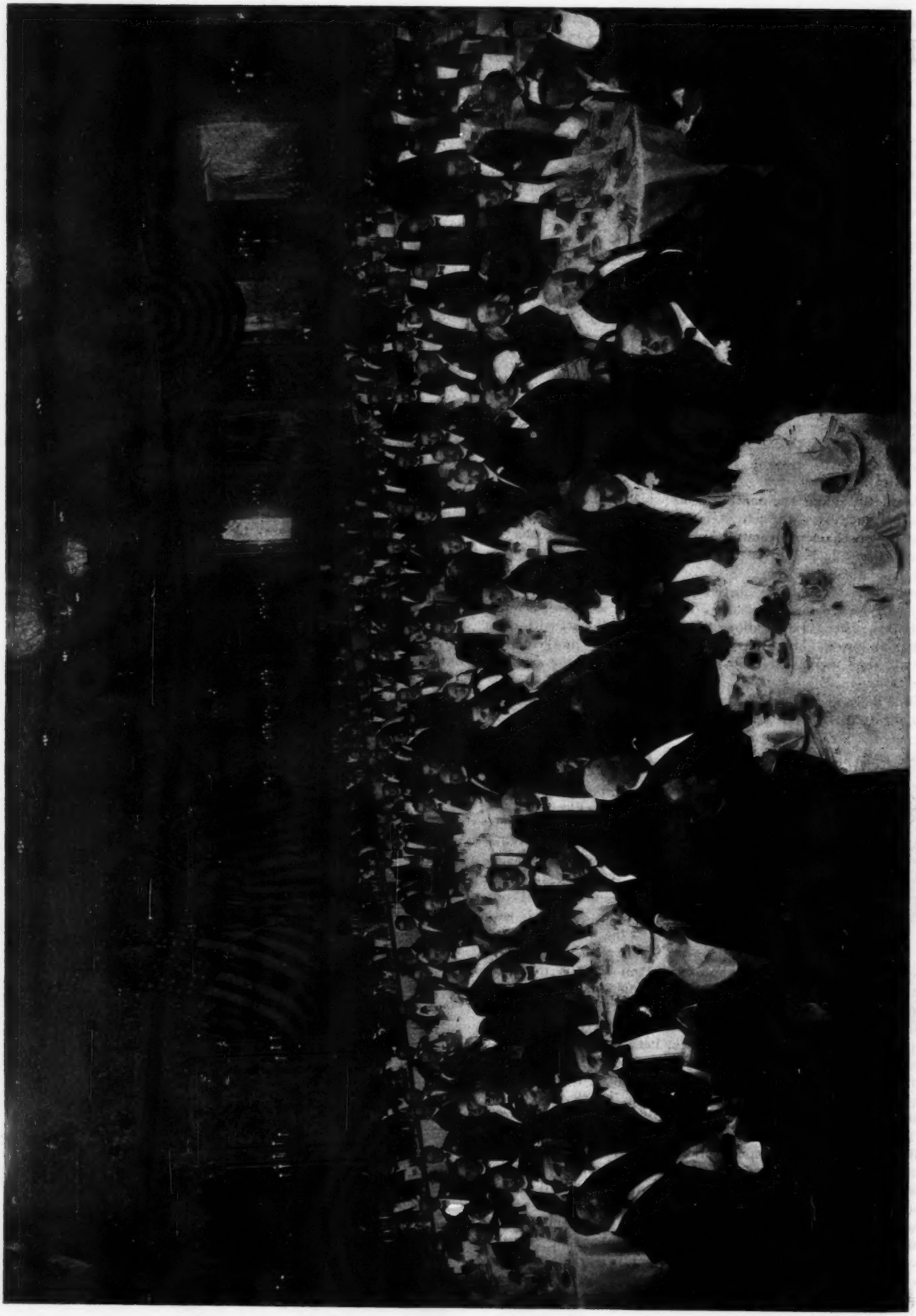
Not the least of the comfort-improvements is the use of a transmission. This allows a reducing gear which lowers the speed to a rate that is safe in crowded streets, the usual laborious method of shutting off the engine and pedalling, being dispensed with.



Cushioned Forks Save the Arms.

The addition of a luggage carrier over the rear wheel surely makes for increased comfort, the comfort that comes with the knowledge of ever-ready soap, towels, clean linen, and similar items. These are neatly worked out, folded up out of the way when not in use, are of a skeleton construction, weighing very little, so that the advantages of this "extra" far out-balance the disadvantages.

The indications show a considerable expansion of trade in motorcycles for the coming year, which has been foreseen and skilfully promoted by the use of whatever makes for increased comfort, greater ease and improved stability.



First Annual Banquet of the Motor and Accessory Manufacturers Successfully Held at Delmonico's, New York City, Wednesday Evening, January 20, 1909.

WITH a membership of 170 concerns and a comfortable balance of $27,000 in the treasury, the Motor and Accessory Manufacturers are in a most prosperous and promising condition. Its first annual banquet, held on the evening of January 20 at Delmonico's, was a most successful function, well arranged and attended, and carried out to a nicety by the committee in charge. Of course, there will be a similar function next year.

When it is said that Job E. Hedges filled the rôle of toastmaster it will be known that each speaker had a suitable introduction and intermingled were quips of wit and epigrams of scintillating brilliancy of the quality now known as "Jobhedgian."

H. S. White, president of the M. & A. M., contributed a graceful installation of the toastmaster. Ex-Governor N. J. Bachelder, of New Hampshire, Master of the National Grange, made it apparent that the farmers as a whole now recognize that the coming of the automobile is a benefit to all mankind, including he who tills the soil.

Charles Clifton, president of the Association of Licensed Automobile Manufacturers, supplied a businesslike talk that struck home deeply to those present. His remarks elicited applause and comment of general acceptance.

William H. Hotchkiss, president of the American Automobile Association, told of the worth of the national organization of users to the industry as a whole. He referred to the needs of its existence in a national form, and said its place could not be filled by any local club, no matter how large its membership or local influence.

Benjamin Briscoe, chairman of the committee of management of the American Motor Car Manufacturers' Association, took a fall out of the excessive figures current concerning the 1909 output, and found that in reality about 90,000 automobiles would be made for this year's sales. "I make a prediction," said he, "that in ten years horses will be as rare as automobiles were ten years ago." Applause told that his hearers agreed with this belief.

A. G. Batchelder, of the Class Journal Company, spoke on "The Trade Press."

H. E. Raymond, first vice-president, then dwelt upon past, present and future of the Motor and Accessory Manufacturers, naming D. J. Post as the man really responsible for its formation. Mr. Raymond predicted a much greater future and enlarged upon some of the plans for bringing this about.

Preceding the banquet, the annual meeting of the association took place. There were elected for a term of three years to succeed themselves on the board of directors: L. M. Wainwright, Diamond Chain & Manufacturing Company, Indianapolis; F. E. Castle, Atwood-Castle Company, Detroit, Mich.; H. T. Dunn, Fisk Rubber Company, Chicopee Falls, Mass., and E. S. Fretz, Light Manufacturing & Foundry Company, Pottstown, Pa.

At the Waldorf-Astoria, January 21, the board of directors organized for the year with these selections: President, H. E. Raymond, B. F. Goodrich Company, Akron, O.; first vice-president, H. T. Dunn, Fisk Rubber Company, Chicopee Falls, Mass.; second vice-president, F. E. Castle, Atwood-Castle Company, Detroit, Mich.; third vice-president, C. E. Whitney, the Whitney Manufacturing Company, Hartford, Conn.; treasurer, W. S. Gorton, Standard Welding Company, Cleveland; secretary, P. S. Steenstrup, Hyatt Roller Bearing Company, Newark, N. J.

One of the immediate future plans to add to the value of the Motor and Accessory Manufacturers is the segregating of the makers of the various accessories in sub-committees. For instance, the tire makers will pass upon all matters affecting the making and selling of tires as far as such concerns its association membership; the lamp makers will similarly consider questions affecting themselves, and the idea will be followed in the classifying of the entire membership. The advantages in so doing are so plainly apparent that the idea met with instant approval from all concerned. The newly elected president, Mr. Raymond, is known as an organizer, and it is anticipated in advance that the plan will be successfully carried out before many weeks have passed. Results are certain to follow in its wake.

The list of those present at the banquet will be found to contain the majority of those actively engaged in accessory making. In addition to the speakers, the guests of the occasion included Alfred Reeves, general manager, A. M. C. M. A.; S. A. Miles,

First Annual Banquet of the Motor and Accessory Manufacturers Successfully Held at Delmonico's, New York City, Wednesday Evening, January 20, 1909.

general manager, N. A. A. M.; E. P. Chalfant, general manager, A. L. A. M.; M. L. Downs, secretary Show Committee A. L. A. M.; W. M. Sweet, assistant secretary M. & A. M.

The list of members who attended is as follows:

American Lamp Company—C. M. Hall.
Atwood-Castle Company—I. H. Atwood, F. E. Castle.
A-Z Company—R. S. Woodbridge.
American Ball Bearing Company—F. Philip Dorn.
American & British Manufacturing Company—C. L. Gulick, W. I. Starr.
Brown-Lipe Gear Company—H. W. Chapin, Thomas J. Wetzel, K. Franklin Peterson, L. D. Bolton.
Ajax-Grieb Rubber Company—Wm. C. Grieb, Harry Grieb, Wm. L. Hughson, H. W. Stimpson, H. de Lisser.
Badger Brass Manufacturing Company—R. H. Welles, Louis J. Keck.
Bowser Company, S. F. (Inc.)—S. B. Bechtel, W. T. Hatmaker, D. A. Corey.
Baldwin Chain & Manufacturing Company—Wm. H. Gates, H. V. Greenwood.
Byrne, Kingston & Company—C. T. Byrne.
Coes Wrench Company—G. V. Allen.
Chandler Company (Inc.)—L. J. Chandler.
Continental Rubber Works—T. R. Palmer, Wm. J. Surre, Alex. Jarecki.
Cramp & Sons Ship & Engine Building Company, Wm.—Courtland D. Cramp.
Cowles & Company, C.—Louis C. Cowles.
Continental Caoutchouc Company—J. M. Gilbert, E. E. McMaster.
Consolidated Rubber Tire Company—Van H. Vartmell, F. E. Holcomb.
Connecticut Telephone & Electric Company—E. C. Wilcox.
Columbia Nut & Bolt Company—Fred Atwater.
Cook's Standard Tool Company—Eugene Cook.
Detroit Steel Products Company—Jno. G. Rumney.
Dow Tire Company—A. V. R. Barnewall, Alex. Dow.
R. E. Dietz Company—Richard Everett.
Diamond Rubber Company—W. B. Miller, H. J. Woodard, G. J. Bradley, E. P. Weber, E. H. Fitch, C. E. Mathewson, O. J. Woodward, N. E. Oliver.
Diamond Chain & Manufacturing Company—L. M. Wainwright.
Federal Rubber Company—O. R. Cook, O. S. Tweedy.
Fisk Rubber Company—E. H. Broadwell, B. H. Pratt, H. G. Fisk, J. B. Kavanaugh, H. T. Dunn, A. N. Mayo, W. P. Kearney, J. C. Cole.
Firestone Tire & Rubber Company—H. S. Firestone, R. J. Firestone, F. H. Martin, J. V. Mowe, Jas. Couzens.
G & J Tire Company—B. C. Dowse, H. A. Githens.
Gabriel Horn Manufacturing Company—C. H. Foster, R. M. Brown.
Gemmer Manufacturing Company—Geo. Brandenburg, J. I. Brandenburg.
Goodrich Company, B. F.—H. E. Raymond, F. Y. Stewart, H. C. Miller, J. W. Lyman, H. B. Linwise, W. O. Rutherford, A. J. Wills.
Globe Machine & Stamping Company—A. F. Schroeder.
Goodyear Tire & Rubber Company—Chas. Measure, Wm. T. Teagon, O. L. Measure, E. F. Jackson, A. F. Osterloh, G. M. Stadelman.
Gray & Davis—L. Hollander.
Hartford Rubber Works Company—H. E. Field, J. D. Anderson, M. C. Stokes, E. S. Edwards, W. R. Barnes.
R. E. Hardy Company—R. E. Hardy, C. D. Manley.
Heinze Electric Company—J. H. Heinze.
Ham Manufacturing Company, C. T.—Jas. Barnes, W. A. Graham.
Hodgman Rubber Company—G. B. Hodgman, S. F. Hodgman, A. W. Warren.
Hartford Suspension Company—Arthur Waterman.
Hess-Bright Manufacturing Company—Henry Hess.
Hyatt Roller Bearing Company—C. A. Sloan, P. S. Steenstrup, B. G. Koether, H. A. Brown.
Phineas Jones & Company—Henry P. Jones.
Jones Speedometer Company—W. Lashar, G. L. Holmes.
Lebanon Steel Casting Company—W. E. Farrell, W. H. Worrilow.
Light Manufacturing & Foundry Company—W. I. Grubb, E. R. Cassel, F. S. Brant.
Leather Tire Goods Company—C. B. Woodworth.
Manufacturers' Foundry Company—Fred'k C. Fromme, Edward W. Beach, Chas. M. Clark.
Mosler & Company, A. R.—A. R. Mosler, L. V. Hansen, A. W. Moyer.
Manhattan Screw & Stamping Works—Louis F. Leland, Frederick M. Stevens.
Morgan & Wright—C. J. Butler, A. I. Philp, J. C. Weston.
Motsinger Device Manufacturing Company—P. J. Dasey, H. N. Motsinger.
McCord & Company—P. L. Barter, J. W. Cain.
National Battery Company—E. B. Cottrell.
National Carbon Company—Nelson C. Cotabish.
N. Y. & N. J. Lubricant Company—T. A. Matthews, F. J. Barnes, W. F. Kimball, J. H. Bennis.
New Process Raw Hide Company—T. G. Meachem.
Randall-Faichney Company—W. A. Randall, Frank Harden.
Rands Manufacturing Company—W. C. Rands.
Republic Rubber Company—H. W. Fratt, F. Hill, J. H. Kelly.
Rose Manufacturing Company—H. C. Rosenbluth.
Standard Roller Bearing Company—P. M. Germane, T. J. Heller.
Shelby Steel Tube Company—H. S. White, J. G. Bateman, H. A. Flagg, C. Wharton, Jr., J. J. Dunn, H. O. Ramsey, F. Lyman, J. E. Millen, E. F. Hollinger.
A. O. Smith Company—A. O. Smith.
Sprague Umbrella Company—Col. Sprague.
Standard Welding Company—W. S. Gorton, W. H. Pirrong, L. D. Rockwell.
Salisbury Wheel Manufacturing Company—S. H. Penfield.
Strieby & Foote—C. W. Baker, W. C. Nicoll, K. L. Ryman.
Schwarz Wheel Company—L. S. Bowers.
Splitdorf, C. F.—P. J. W. Kelley, G. H. Murphy.
Syracuse Aluminum & Bronze Company—C. L. Ackerson.
Swinehart Clincher Tire & Rubber Company—B. C. Swinehart.
Timken Roller Bearing Axle Company—W. R. Timken, E. W. Lewis.
Veeder Manufacturing Company—D. J. Post, Geo. Collister, W. F. Sagle.
Vacuum Oil Company—F. B. Thurber.
Warner Gear Company—T. W. Warner, R. P. Johnson.
Westchester Appliance Company—Jas. M. Fischer.
Whitney Manufacturing Company—C. E. Whitney, W. W. Totman, W. Hill (of London, England).
Wheeler, F. H.—F. H. Wheeler, E. W. Spencer.

S. D. WALDON ELECTED PRESIDENT N.A.A.M.

At the annual meeting of the National Association of Automobile Manufacturers, which was held at the New York headquarters, 7 East Forty-second street, January 20, the election, which was practically the only thing of moment on the program, resulted in the choice of the following officers for the present year:

S. D. Waldon.

President, S. D. Waldon, Packard; first vice-president, William E. Metzger, E-M-F; second vice-president, L. H. Kittredge, Peerless; third vice-president, C. C. Hildebrand, Stevens-Duryea; secretary, Benjamin Briscoe, Maxwell, and treasurer, William R. Innis, Studebaker.

Thomas Henderson, Winton, the retiring president, was again chosen as one of the members of the executive committee, the result of the election otherwise being to move every one of the officers for the past year up one peg. The retiring members of the directorate were re-elected, so that this body remains the same as before.

It is made up of S. T. Davis, Jr., Locomobile; Windsor T. White, White; Charles Clifton, Pierce; Thomas Henderson, Winton; W. E. Metzger, E-M-F; S. D. Waldon, Packard; W. R. Innis, Studebaker; C. C. Hildebrand, Stevens-Duryea; H. O. Smith, Premier; Albert L. Pope, Pope-Hartford; Benjamin Briscoe, Maxwell; L. H. Kittredge, Peerless; R. D. Chapin, Chalmers-Detroit; W. M. Lewis, Mitchell, and C. G. Stoddard, Stoddard-Dayton.

THE SUCCESSFUL A. M. C. M. A. SHOW.

In view of the enormous attendance and the great number of exhibitors at the Ninth Annual International Automobile Show in the Grand Central Palace during the first week of the year, it did not come as a surprise to those who paid for space there to learn that the Committee of Management of the A. M. C. M. A. had decided to make a rebate of 67 per cent. to all exhibitors—a figure that has never been approached at any previous event of the kind. This was the first year in which the show has been held under the auspices of the American Motor Car Manufacturers' Association. The show committee made its report at a meeting held at the association headquarters, 29 West Forty-second street, New York, January 20. The Importers' Automobile Salon and the Motor and Accessory Manufacturers, Inc., are interested in the division of the profits with the A. M. C. M. A.

To the show committee, consisting of H. O. Smith, chairman, S. H. Mora, R. M. Owen, Benjamin Briscoe, E. R. Hollander, D. J. Post and Alfred Reeves, general manager, was extended a unanimous vote of thanks for their very able management.

A standard form of warranty that will be fair to the buyer and to the manufacturer, the matter of good roads, as well as other routine business, were acted upon. The annual meeting of the association will be held at Chicago, Tuesday, February 9.

In attendance at the meeting were Benjamin Briscoe, chairman, Maxwell-Briscoe Motor Company; James Couzens, Ford Motor Company; C. G. Stoddard, Dayton Motor Car Company; Charles Lewis, Jackson Automobile Company; H. O. Smith, Premier Motor Mfg. Co.; R. E. Olds, Reo Motor Car Company; Walter Marmon, Nordyke & Marmon Company; S. H. Mora, Mora Motor Car Company; W. H. VanDerVoort, Moline Automobile Company; Alfred Reeves, general manager.

CHICAGO'S BIG SHOW WILL BE AN EYE-OPENER

CHICAGO, Jan. 27.—Preparations for the N. A. A. M. show, which will open here a week from Saturday, are being rushed, and are in such shape that the decorators will be at work in the two big buildings, the Coliseum and the First Regiment Armory, by next Monday. This will be the earliest the show people ever have been given the keys to the buildings, and will enable the decorators to finish their work in plenty of time for the exhibitors to get in and have everything in readiness for the opening of the show. This time the slow ones will not be able to blame the decorators.

Anticipating securing the buildings early, Manager Miles and Assistant Fest have pushed along the work of making the decorations, and as a result they now have the papier-maché and stucco embellishments ready. They are stored in warehouses, and there will be no delay in installing them. Those who have had a peep at the decorations predict that the Chicago show will be more beautiful than ever. Collaborating, Manager Miles and Artist Thiede have devised a color scheme in which copper, bronze and old gold will play an important part. Old Mercury will again be "on the job," but he will be dignified this time by being in the center of stained-glass windows in variegated colors instead of staring down, a mass of stucco, from a red or green board as he has done for several years past. Green silk and golden trimmings also will be used.

In the way of signs, the show visitor can locate the different exhibitors easily because the signs themselves will be located on the top of the sections. They will consist of white and gold raised letters on a red silk background, and immediately above will be placed white flower boxes filled to a height of two feet with real ferns and flowers.

Papier-maché has been largely used in the decorative work, although stucco has not been entirely discarded. Manager Miles tried papier-maché for the first time in his last show and he found it preferable because of its comparatively light weight, so he has retained it. As an argument for its use, it is pointed out that two men can handle a piece of papier-maché decoration where it takes ten men to move plaster. This, therefore, will greatly facilitate the installation of the decorations. Two hundred girls have been engaged making these, and in addition fifty painters and half a dozen sculptors have been working under the orders of Assistant Manager Fest.

The Chicago show will have in the neighborhood of 255 exhibitors, smaller, perhaps, than at either of the New York shows, but, on the other hand, the spaces at Chicago are claimed to be much larger than the ones in the East. It wasn't because Miles could not get more exhibitors that the list is confined to 255 names—he simply could not place any more. Even now he has a waiting list a yard long, and it is hinted that one of the reasons he went to New York was to dodge those who came here simply insisting they must be given space.

QUAKERTOWN IS HAVING ITS ANNUAL AUTO SHOW

PHILADELPHIA, Jan. 27.—In a building one-half the required size—its usual handicap—the Philadelphia Automobile Trade Association to-night opened its eighth annual exhibition. Small as is the Second Regiment Armory, it is yet 50 per cent. larger than the most available downtown building, the First Regiment Armory, the scene of most of the association's former shows. Within a few days of the initial announcement, some months ago, the latest available inch of space was bespoken.

While the members of the association—there are 45 of them—were naturally given first choice as regards location, the spaces were laid down of a uniform size, and each concern was allowed but one of them. In that way only could even the "early birds" be accommodated. That the committee has worked to some purpose may be gathered from the fact that by thus limiting the space assignments 50 of the three-score cars represented in Philadelphia found a resting place under the armory roof when the ball dropped to-night. With each annually recurring automobile show there is a howl for a big exhibition building in this "conservative and slow-going" old burg; such a plaint is rising now, from various quarters, and—who knows?—perhaps by this time next year there may be such a building here, and Philadelphia will come to its own as a show center and give the national exhibitions a rub for the honors. Apropos of this, a movement has been started to make such additions to the building in which the show is being held as to double the amount of floor space and provide the city with a much-needed exhibition building before the end of the present year.

At the Philadelphia show the licensed and the unlicensed car lie down together, and the foreigner fraternizes with both. There are no side issues in the way of upstairs, basement or company-room exhibits. Even the accessories and the trade journals are on a level with the big cars. Nobody is compelled to climb up and down but the band. It is one of the most compact and easily getatable shows ever held in this city.

The innovation of a midweek start—necessitated by the fortnight's interval between the New York and Chicago shows—will be watched with interest. The three days intervening between the close of the Garden exhibition and the beginning of the Quaker show permitted of the bringing here of many of the former's exhibits without the usual rush which marked the Saturday or Monday openings of former years. But with the opening of the Windy City affair some of the exhibits which are scheduled for both will have to be handled very quickly in order to reach Chicago by Saturday night.

The cars on exhibition include the Acme, Chalmers Detroit, Columbia, Crawford, Elmore, E-M-F 30, Ford, Fiat, Franklin, Gaeth, Grout, Isotta, Jackson, Knox, Lancia, Locomobile, Lozier, Marmon, Matheson, Maxwell, Middleby, National, Overland, Packard, Palmer Singer, Peerless, Pennsylvania, Pierce-Arrow, Pullman, Rambler, Regal, Detroit, Royal Tourist, Simplex, Speedwell, Stanley, Stearns, Stevens-Duryea, Stoddard-Dayton, Studebaker, Thomas, White Steamer, Winton—just an even half-hundred, included the Carroll carbonic acid gas car, which is on exhibition for the first time.

The latter is expected to arouse a great deal of interest, for it will be a Philadelphia invention, built here by local capital, the Carroll Power Company having secured a factory here and started work. Among the many claims for it, is the ability to run from here to Chicago on a single charge of gasoline costing at retail not over 50 cents.

The apparent dearth of accessories is explained by the inability of the show committee to scare up space. About a score of odd corners here and there were awarded the applicants in the order in which the requests were mailed. A full score of disappointed applicants, including several automobile dealers, were left out in the cold. Partly as a result of this, and partly from choice, several of the "Gasoline Row" concerns are running individual shows, with all the usual musical, decorative and gastronomic side features. Among these are Oldsmobile, Reo, Buick and a few others. Besides these, most of the "Row" concerns, unable with the limited space awarded them by the Armory show management to make a comprehensive exhibit of their cars, are having supplementary shows at their several agencies and branch houses.

DEVELOPMENT OF FOREIGN AND DOMESTIC CARS

By E. T. BIRDSALL, M. E., A. L. A. M.

IN the early days of the automobile industry in the United States little or nothing was known of the properties required in the materials of construction. For example: Aluminum was a novelty, cast iron and bronze were used for the gear wheels of the speed-change mechanism; roller bearings having unhardened rolls operated in soft axle tubes as a bearing for soft-steel solid axles; bronze and malleable iron were used for connecting rods; the hardening and grinding of crankshafts and many other parts were unknown; brakes were lined with wood blocks; any yellow metal for bearings was "bronze," regardless of its composition; hardening meant "case-hardening" sometimes .001 inch deep, sometimes more, but always an indefinite amount. Heat treatment, alloy steels and hardening as we know them to-day were practically unknown in the early days of auto making. Structural steel; bar, plate and rod stock; woods of various kinds; cast iron; brass and bronze of the ordinary "merchant" shapes and qualities were alone available for the automobile builder.

E. T. Birdsall.

Where the Foreign Maker Had Early Advantages.

In Europe, on the other hand, the requirements of foreign gunmakers, engine builders and others had created a demand for special steels and bronzes. From the beginning of the automobile industry in France the machines were entered in races and other competitions that developed in a few hours weaknesses and shortcomings of design in materials that would have taken months of ordinary use.

Finding that increasing the size alone of a weak part to make it strong enough was not always the remedy, or even always feasible, the manufacturers naturally turned to the steel-makers for better materials.

Right here another difference between the United States and Europe should be noted. In the United States the steel-makers wanted "tonnage." That is, they would not get out a special grade of metal and set up the rolls to shape it unless an order for many thousands of tons was placed. Whereas, in Europe the steel mills would take an order for a few hundred pounds of a steel of special composition.

The net result was that the French automobile builders by races that tested the materials and design of construction, by the facility and possibility of procuring proper materials, by cleverness in design and by keen competition, soon distanced all other nations in the production of cars that were reliable, fast and dependable.

How One American Maker Made a Test.

A concrete example of the above is furnished by the actual experience of one of the early American manufacturers who conceived the idea of building in this country an exact copy of a well-known and successful French car. After the first car was built the testing out proved that the American tubing used in the frame had only about one-half the strength and stiffness of the tubing used in the model. The gears would not stand up under the work and the wearing qualities and general durability of the entire machine were far below the French model. A careful investigation showed that the difference was solely due to the quality of the materials used.

As at that time practically no one here who was available knew the difference between the materials in the model and the copy and there were not procurable in this country materials from a constructive and commercial point of view that would answer the purpose, the manufacture of the car was discontinued.

Conditions in the American engineering talent and material market have in the last three or four years completely changed.

We now know what material to use in each particular place, how to use it, where to get it and why we use it.

It is, moreover, a fact that the reverse of the above-mentioned case has happened. An American manufacturer in 1899 and 1900 produced a number of 8-horsepower cars with single cylinder, vertical in front engine. The owner of one of these cars appeared within the past two months at a New York salesroom and stated that he still used his little 8-horsepower original American car and that the bearings and all of the parts had stood up wonderfully well. This car must have had excellent material and admirable design. As a matter of fact, one of the largest manufacturers in Germany acquired in 1898 exclusive rights to manufacture this same car of American design and on American specifications for material. All the detailed drawings were converted into the metric system and sent to Europe with a model and some parts. The car, though well known and successful in the United States, was not satisfactory when made by the German maker with European material.

The American industry has grown to such proportions that steel and other material manufacturers seek and cater to the wants of the automobile builder. At the present time there is not, and, in fact, for some time past there has not been the difference between the foreign and the domestic car that formerly existed. If the American engineer is not satisfied with American materials all kinds and grades of foreign materials can now be procured in stock in the American market and at prices commercially practicable.

The only possible reason for the purchase of a foreign car in this country to-day is the same one leads many people to buy English clothes and French hair dyes.

There is an idea very prevalent in some quarters that practically all the cars made in France, England, Italy, Germany and Belgium are as good or better than the better grades of cars made in this country, whereas the reverse is really the truth.

Some of the foreign cars that have had a large sale and vogue in this country and been accepted without question as being of the highest grade were classed as second grade at home. Taking the good and the bad together, the average quality is higher in this country to-day than in Europe.

It is true that there are more builders of high-grade, finely finished cars in Europe than in this country. But their combined output is not as great as the combined output of the relatively few similar makers here. On the other hand, there are practically no cars built here as "rotten" as some foreign ones.

AUTOBUS WILL ANSWER IN PITTSBURGH.

PITTSBURGH, Jan. 25.—Angered by the repeated failures to get the Pittsburgh Railways Company to give them any sort of transfer service across the city, the Duquesne Incline Plane Company has contracted with the Automobile Transfer Company for the hauling of passengers from the foot of the plane on the South Side to Fifth and Liberty avenues, the most central point in the city. The contract calls for automobiles to be furnished every four minutes during the rush hours and every eight minutes during the remainder of the day. The service will be established April 1.

The distance from the foot of the Duquesne incline to Fifth and Liberty is something over a mile. The incline is the main source of access for thousands of people on the South Side hill tops. For a long time the Incline Company issued transfers, which were accepted by the Pittsburgh Railways Company. Lately the "trolley trust" has refused to accept these transfers, and the contract with the Automobile Transfer Company is the result. The cars contracted for will carry 22 passengers each.

USE OF ALUMINUM, NICKEL AND VANADIUM STEEL

By ELWOOD HAYNES, A. L. A. M.

A FEW years ago it was considered impossible to build a self-propelled vehicle for the common roads that could be operated continuously in a practical way because of the very high cost of up-keep. A large part of this excessive maintenance cost was due to the breaking or bending of the various parts of the machine. The early builders of automobiles were not only annoyed almost beyond endurance from this cause, but the problem became so serious that for a time the success or failure of the entire business seemed to hinge upon the possibility of obtaining the materials which would stand the extraordinary stresses imposed by this new means of locomotion.

Elwood Haynes.

Many entertained the idea at first that excessively tough materials would best answer the purpose and hence employed Swedish iron or very low carbon Bessemer steels. These were found to be absolutely unsuitable in many instances, not because of breakage, but on account of the readiness with which they would bend and take excessive and permanent set, thus throwing the parts out of line and rendering the machine in a short time practically inoperative. Higher carbon Bessemer steels were employed with but little advantage; it is true that they were more elastic, but after a limited amount of use they would deteriorate in strength and finally break in most unexpected places.

Introduction and Use of Nickel Steel.

Alloy steels were almost unknown in mechanical construction in the nineties, though nickel-steel had been tested to some extent chiefly by firms supplying armor-plate steel to the Government. However, it was of doubtful utility until introduced into the automobile. The early users of this steel were highly pleased with the extraordinary improvement which it introduced into the machines. First, it proved a great boon in the construction of live rear axles, which when made of ordinary steel, had been bending or breaking to an alarming degree. Next, it was tried in crankshafts, which had also given much trouble. Later, it was used for the construction of sliding gear wheels employed in the transmission of the car. Its introduction was not always attended with satisfactory results, but generally speaking, the improvement which it made was most marked.

Unfortunately a number of builders regarded nickel steel simply as an alloy of iron and nickel containing a certain per cent. of the latter metal. They were not particular about the other constituents of the alloy or how the steel was made. This was the cause of a great deal of trouble in the early use of nickel steel. Firms that had never had any experience with alloy steels immediately began making nickel steel of inferior quality and placing it upon the market. Much of this steel was too high in carbon for the purpose intended, other samples contained considerable quantities of phosphorus and sulphur, thus rendering them unfit for use, while still others were carelessly made up and little if any superior to the ordinary Bessemer product. Gradually, however, it was learned that certain precautions were necessary to make a good nickel steel and that the steel must be of such a composition as to answer the requirements necessary in a particular part of the machine.

Marked Effect of Introduction of Chromium.

A little later chromium was introduced into the nickel steel and its effect was found to be very marked; but while it greatly improved the strength of the nickel steel, it was found to be very much harder to work, and since it is a triple alloy of iron, chromium and nickel, besides containing various percentages of carbon, its manufacture and manipulation required much greater care than the making of carbon steel or nickel steel. Moreover, the carbon content must be very carefully controlled or the steel will be greatly modified in its properties and may be rendered utterly unsuitable for the purpose intended. Owing the great hardness of this steel in its natural or annealed condition, special tools were required for forming and machining it, and even these did not work it rapidly.

Fortunately at about this time a new alloy tool steel had been compounded which greatly aided in the working of the nickel-chrome steel. This new tool steel is, generally speaking, an alloy of iron, tungsten and chromium, containing but a small per cent. of carbon. It possesses the extraordinary property of becoming exceedingly hard when heated to whiteness and dipped in oil. The hardness thus imparted to the steel is not readily reduced by heating, and for this reason the tools made of this substance will hold a cutting edge even though the iron or steel shavings are heated to redness in the process of turning. It is questionable whether nickel-chrome steel could have been successfully introduced into the automobile without the use of this special tool-steel alloy.

Much difficulty was experienced with the nickel-chrome steel, aside from the difficulty of working it. It is very sensitive to slight differences in temperature employed in tempering it, and to make sure of accurate results a pyrometer must be employed for every operation. Owing to this fact and to the further fact that nickel steel lends itself to a variety of uses, there has arisen a difference of opinion in regard to which of these materials is more suitable to employ. Many high-class builders use a limited amount of both in the different parts of their machines.

Vanadium and Its Peculiar Effects on Steel.

Closely following the nickel-chrome steel came the introduction of vanadium steel, or more properly speaking, vanadium-chrome steel, since vanadium alone is seldom used in automobile steels. The effect of vanadium upon iron and steel has been very carefully studied by Mr. J. Kent-Smith, to whom largely belongs the credit of introducing this valuable material.

Much has been said and written about the peculiar effect of vanadium upon steel. It is generally conceded now that it acts largely as a scavenger and exercises a beneficial influence on almost all of the carbon and alloy steels when introduced in minute quantity during the melting process. Its chief office seems to be that of removing the last traces of oxygen and oxides, as well as minute quantities of nitrogen, which latter element exercises a very bad influence on iron and steel even when present in exceedingly small quantity. It is perfectly certain that vanadium exercises a very beneficial effect upon the finished product, giving it closeness and fineness of grain, splendid elasticity, coupled with extraordinary toughness. Fortunately in addition to these very desirable properties, the steel is sufficiently soft in its annealed state to be turned and machined like ordinary low carbon steel.

Difficulty Experienced in Case-hardening.

One difficulty in the manipulation of this steel is the persistence with which it resists case hardening. While nickel steel takes up carbon readily at a temperature of from 750 to 800 degrees Centigrade, under an exposure of from two to four hours, vanadium steel under the same condition and, in fact, in the same annealing box, shows only a slight penetration by carbon after an exposure of from 10 to 12 hours. This is probably due to its very dense character. It will, however, take up carbon slowly if exposed to a temperature of 900 degrees Centigrade. But a continuous temperature as high as this exercises a rather marked effect upon the furnace and annealing pots —in fact, in case-hardening this steel I have found it advisable to use graphite pots instead of cast-iron ones.

Besides the steels already mentioned, special grades of open-hearth steel may be employed for parts which are not required to resist special stress. And in cases where rigidity rather than high elastic limit is the prime requisite, a good moderately low-carbon steel of high purity will answer as well as an alloy steel. As a matter of fact, the writer has made a large number of tests which indicate that an open-hearth steel of moderate carbon content is stiffer than nickel steel, though not quite so stiff as nickel-chrome steel or vanadium steel.

Suitable Heat Treatment the Keynote.

No matter what steel is employed in the construction of an automobile, its full value is only obtained by suitable treatment. For instance, a ½-inch square bar of nickel steel 6 inches in length supported at both ends resisted a load of 900 pounds when it took a permanent set. The same steel after treatment sustained a load of 2,700 pounds before taking the slightest set. A vanadium-steel bar under the same condition took a permanent set under a load of about 900 pounds; after treatment it resisted a load of 4,000 pounds without taking the slightest set. In fact, the alloy steel before treatment will frequently show but little more strength than good untreated open-hearth steel. The nature of the treatment depends largely upon the use made of the steel, and each manufacturer has a treatment of his own which has been carefully worked out to meet the specific requirements in the various parts of the car.

Besides the various drop forgings, which should never be made of Bessemer steel, high-grade crucible steel castings may be employed for certain parts of the machine. For example, a steel of this character is much better for rear-axle housings than malleable iron; in fact, the latter substance, in the opinion of the writer, should have no place in the car excepting for elbows, tees, etc., which are not subjected to engine stress or road stresses in which dynamic ability is necessary.

Bronzes, Babbitts and Aluminum.

The other metals besides iron and steel employed in the automobile are mainly bronzes of various kinds (including bearing metals, etc.) and aluminum. High-grade babbitt metals are now employed to a considerable extent in the place of bronze, since they have the advantage of never cutting the shaft in case the oil supply should fail. Aluminum castings are employed by nearly all high-class builders for crank-cases and gear-cases. If properly designed, these castings give excellent results; and at the present price of aluminum are probably as cheap as any that could be employed for the purpose. It is a notable fact that the Americans were the first to introduce both aluminum and nickel steel into automobile construction, though it is generally supposed that these progressive steps should be credited to the French. The extensive introduction of vanadium steel is also due to Americans.

The Transformed Automobile a Marvel of the Age.

With improved design in mechanical parts and the introduction of high-grade alloy steels, together with anti-friction bearings wherever practicable, the automobile has been transformed from the uncouth and unreliable mechanism of a few years ago to one of the most perfect and reliable machines in use. It is certainly a high tribute to the scientist, the metallurgist, the engineer, and the designer that this mechanism has been created and perfected within the last few years to such an extent that its power, endurance, reliability, and speed are among the marvels of the age, and its operation rendered so simple that it can be manipulated and controlled with ease by one in no way skilled in the art of mechanics.

AUTOMOBILES MAY SOLVE THE TRAFFIC PROBLEM

BUFFALO, N. Y., Jan. 25.—One of the biggest and vexing problems in any large municipality is the traffic problem, on which engineers and others have spent years in search of the correct solution. This, which might be likened to the squaring of the circle, now appears to be likely, through the use of motor-propelled vehicles. It is now possible to show by official records just how far the supplanting of horses by motor cars has progressed. In a report recently issued by the London traffic branch of the Board of Trade on conditions in London it is shown that between 1903 and 1907 the number of mechanical cabs has increased by 700, while the horse-drawn cab has decreased by 1,500. Motor omnibuses have increased by 1,200 and horse-drawn 'buses have decreased 1,000. Statistics concerning the replacement of private carriages are not given.

Perhaps the most pertinent matter brought out in these facts is that of the saving of space in city streets through the use of motor cars. Almost every city has been confronted with an endless congestion in certain thoroughfares and has faced the necessity of widening the pavements. To show the saving of street space that could be made by the universal use of motor cars, the George N. Pierce Company, of Buffalo, N. Y., has made comparisons between the relative spaces occupied by motor and horse-drawn vehicles. Measurements were taken of the street space occupied by the five models of Pierce Arrow cars and of the more prominent kinds of horse-drawn vehicles. In both cases the length over all was used, the length of the horse vehicles, of course, included the horses. The square feet occupied by the various cars is:

	Horsepower	Length Over all	Sq. Ft.
Pierce Arrow	24	12 ft. 8 in.	59.1
"	36	13 ft. 0 in.	60.7
"	40	14 ft. 5 in.	67.0
"	48	15 ft. 0 in.	70.0
"	60	15 ft. 7 in.	72.8
5-ton truck	40	18 ft. 6 in.	84.0

The measurements of the horsed vehicles are:

	Length over all.	Sq. Ft.
One-horse cab	19 feet	88.7
Two-horse cab	20 feet	93.3
One-horse delivery wagon	20 feet	93.3
Two-horse delivery wagon	20 feet	93.3
Moving van	24 feet	112.0
Brewery wagon	26 feet	121.1

The most striking comparison is that between the six-cylinder, 60-horsepower car with a seating capacity of seven persons and the one-horse cab. The touring car requires 72.8 square feet of street and the one-horse cab 88.7 feet, a clear saving of 15.9 feet, or 18 per cent., of street space. With the smaller 24-horsepower car, which conforms more closely to the one-horse cab in seating capacity, the difference is even more noticeable. The automobile occupies only 59.1 square feet, giving a difference of 28.6 square feet, or 32 per cent.

Another striking illustration is the space saved by the motor truck. A five-ton truck is the illustration in this case, and the nearest approach to this is the brewery wagon. This occupies 37.1 square feet more street space than the truck, so the use of the latter would mean a saving of 69 per cent.

The figures were shown to an engineer in Buffalo with considerable experience in municipal problems, whose first statement was:

"It looks as if one of the most vexing problems on municipalities—that of increasing the pavement space to prevent the congestion of traffic—will work out through the automobile. Every city of any size has had the question forced on its attention at one time or another, but the more general use of the automobile would allow putting off consideration of it for years enough to bring out some new method of handling street traffic without disturbing existing building lines. At that time, with automobiles in general use, we will have thought out some plan that will relieve the congestion in a manner undreamed of now."

CONCERNING DOUBLE IGNITION PATENT CLAIMS

FROM the Bartholomew Company, of Peoria, Ill., makers of the Glide, come copies of some correspondence which has passed between that company and Elmer Apperson, of Kokomo, Ind., in reference to the double ignition patent claims put forth by the latter. The letters tell the story in such manner as to make it perfectly clear that the patentee will have to go to court before obtaining royalties from this particular concern. Herewith the correspondence is presented in full, containing some information which may be of interest to many readers:

From Elmer Apperson to Bartholomew Company.

APPERSON BROS. AUTOMOBILE CO.
KOKOMO, IND., December 24, 1908.

The Bartholomew Company, Peoria, Ill.:

Gentlemen:—In connection with the motors which you are using, do you use two or more separate electric igniting devices, provided with separate circuits and with means for throwing the igniting devices into or out of action simultaneously or independently, as well as covering the use of two or more spark plugs or sparking points having electrical connections with a magneto and battery with means for throwing the spark plugs or points into or out of operation?

If so, do you consider such method of ignition of value?

I am the owner of Letters Patent of the United States No. 617,806, granted to F. E. Canda, January 17, 1899, for electric igniter for explosion engines, and also of Letters Patent No. 905,625, granted to Elmer Apperson, December 1, 1908, for improvements in explosion engines.

I have no disposition to unnecessarily embarrass any manufacturer now using the device on which I own broad and strong patents. I have spent much time and money in developing this system of ignition to its present effectiveness, and believe that any manufacturer will hold that an owner of a patent of value is entitled to a reasonable compensation therefrom.

If you are now using the system, and if you wish to continue using it, or if you desire to commence using it, I should be glad to hear from you in the near future, and there is no doubt but what we can make arrangements that will prove to be mutually satisfactory. I shall appreciate having your reply to this letter by early mail. Yours very truly,

ELMER APPERSON.

From Bartholomew Company to Elmer Apperson.

THE BARTHOLOMEW COMPANY.
PEORIA, ILL., January 11, 1909.

Mr. Elmer Apperson, Kokomo, Ind.:

Dear Sir:—We have received your notice concerning the alleged inventions and patents. Concerning this patent to yourself of December 1, 1908, application filed July 3, 1906, we are compelled to say that we cannot recognize this patent as a legal patent, for we had been making cars more than three years prior to the date of this application, containing two spark plugs and the other elements mentioned in the patent. Many of these cars were made and put on the market at that period.

If you should like to have any information concerning the matter, or data, we will hold ourselves in readiness to give it to you any time you come to Peoria. This offer is made in a friendly way, and until such time as we have either had an opportunity to show you in person or in a friendly way the situation as outlined above, or before the court, if it is your pleasure we will drop the matter of this particular patent.

As to the patent of F. E. Canda of January 17, 1909, application filed August 26, 1907: In our opinion this patent does not relate to ignition devices whereby a battery is used for ignition on one set of electrical apparatus and a magneto is used for ignition on another set of electrical apparatus, which are both entirely independent and in nowise connected with each other, each having a switch for throwing it in and out entirely independent of the other.

Kindly let us know if you do not agree with us with reference to the Canda claims. Yours very truly,

THE BARTHOLOMEW COMPANY,
Per J. B. BARTHOLOMEW, President.

From Elmer Apperson to Bartholomew Company.

APPERSON BROS. AUTOMOBILE CO.
KOKOMO, IND., January 13, 1909.

The Bartholomew Company, Peoria, Ill.:

Gentlemen:—I have just received your letter of the 11th, and note what you say about your having used two spark plugs in each cylinder more than three years prior to the date of the application of my patent. If you were using spark plugs of this nature three years prior to 1906 I failed to hear of you; in fact, I do not remember of any such concern being in the automobile business in 1903 or prior to that time. In fact, at the present time I do not know or hear of your making very many automobiles, so that in reality what we might collect from you would not be large, to say the most; but in our opinion, it is a fact that you copied this double ignition system from cars which I exhibited at the Chicago show during the Winter of 1904 and 1905. You state in one paragraph of your letter that "many of these cars were made and put on the market at that period." Will you kindly refer me to some one to whom you sold cars as far back as 1903? If you actually made cars in 1903 using two complete systems of ignition, using two spark plugs in each cylinder, I should be very glad for the information, and will have an apology to offer for the statement that I did not know you were in the automobile business at that time. The Canda patent covers one or more sparking points in the same cylinder. Very truly yours,

APPERSON BROS. AUTOMOBILE COMPANY,
Per ELMER APPERSON.

From Bartholomew Company to Elmer Apperson.

THE BARTHOLOMEW COMPANY.
PEORIA, ILL., January 16, 1909.

Mr. Elmer Apperson, Care of Apperson Bros. Auto Co., Kokomo, Ind.:

Dear Sir:—In response to yours of the 13th, beg to say the tone of your letter reminds the writer of the old story of the fellow who was so deafened by the rattle of his own cart and so blinded by the dust he was kicking up himself that he had seen or heard of no one else along the highway.

The dust you are stirring,
Is still in the air.
You will have to ride through it,
Better stir it with care.

We took your notification in good faith and thought you would be interested in the information our letter contained, for we know, as a matter of fact, there are a good many erroneous impressions that exist among the people engaged in the automobile industry; and while we have been modest in our operations, we have been busily engaged in the business of turning out automobiles to the trade ever since 1900, but the most of our experimental history dates back of even that, and you might be interested to know, as a matter of history, concerning the industry, that in our shops an automobile was made as early as 1889. While it was a very crude affair, it actually traveled half way across one big State and entirely across another, and from that time on we have been more or less engaged in one way or another in automobile experiments, construction and exploiting; but nevertheless, during this period were very busily engaged in the manufacture of other machinery.

In 1893, on behalf of my company, I negotiated a contract with Mr. Charles E. Duryea et al., in which contract the undertaking was the production of a gasoline automobile of his design, and this was done before he had completed any working drawings, and it might be interesting to you to know that one of our present stockholders made all of his drawings, covering all of his various constructions up to the date he moved from Peoria to Reading.

As a result of this connection, automobiles of his design were produced here in Peoria, and within the next fifteen months or such a matter were running on the streets of Peoria, and these machines, I believe, are still in existence.

In our foundry, in 1894, we made the first cylinder castings from Mr. Duryea's first pattern. This may or may not have bearing on the questions under consideration; but it is interesting, nevertheless, to know that in his construction the cylinders were all cast integral, a system of manufacturing that is being promoted by some of the more recent concerns, and is strongly advocated because of its being of French origin. (?) We have the first casting that was made from his pattern in our sample-room at the present time, and it is held there as a relic, having been cast as early as 1894.

Without going into detail as to what happened from that time down to 1900, except to say the writer was in some manner or other more or less engaged in the exploiting of motor-driven vehicles, but in 1900 we had arrived at the point where we were ready to commence the delivery of Glide cars to the trade, and while, as before stated, our movements have been conducted in a modest way, we want to answer that part of your letter which states you failed to hear of us and do not remember of any such concern being in the automobile business in 1903 or prior to that time, and even now do not hear of our making very many automobiles, by informing you that there are at the present time more Glide cars in the hands of users than there are cars manufactured

by all other automobile manufacturers of Kokomo, Ind., put together.

We did state in our former letter that many of these cars were made and put on the market at that period, namely, as far back as 1903, and if we understand your letter, you want us to qualify as to the meaning of many. We turned out machines enough and got publicity enough in our work to destroy the value of any patent that might have been taken out unbeknown to us on devices we had produced and put on the market to what we term the extent of many.

For this purpose it seems to me that five would be enough to justify in saying many, although we put out more than 100 machines, and, to answer your inquiry, we will give you the name of H. H. Bliss, Ouray Building, Washington, D. C., as the party to whom we shipped one of our cars on October 6, 1903, and will say also that there were 12 other machines of the same pattern built and delivered the same month of that same year, all of which were equipped with the double spark plug system, which was our common practice during that entire season.

So when you have established these facts you will be able to see clearly that these machines could not have been copied from your machine shown in the Winter of 1905 at the Chicago Automobile Show. In this connection, we are prompted to suggest that possibly you might have seen our machine with the two-spark plug system exhibited at the Chicago Automobile Show in February, 1904. It was there, and the writer remembers distinctly of a man by the name of "Apperson"—either that year or the year before—coming onto our space, but as I understood it, he was with the Haynes-Apperson Automobile Company.

We made our first exhibit at the show in February, 1903, and if you care to look this matter up you can write to S. A. Miles, and ask him if we did not pay him for space on February 19, 1903. We have exhibited at the Chicago show every year since, and we do not understand how you could have overlooked these important exhibitions we have given. Some of them have been exceedingly attractive and interesting.

Concerning the Canda patents, if you will turn back to our letter of the 11th and read it carefully you will see your statement, "The Canda patent covers one or more sparking points in the same cylinder," does not answer in that it does not agree or disagree with our opinion as stated.

You might be excused for making a statement of this kind, if you did not know better. We will assume you have written your letter without knowledge as to the exact character of the claims of this patent. Nevertheless, inasmuch as we have taken this matter up in good faith with you, we believe we are entitled to an expression from you as to whether or not you entertain our opinion or disagree with us concerning this patent.

Therefore, we want to put the matter up to you squarely in this way: If our machines for 1909 are made with two sets of spark plugs for each cylinder, with a battery circuit for one plug to each cylinder and a magneto circuit for the other plug to each cylinder, both circuits entirely separate from each other, with a separate switch for each circuit to throw it on and off, under such circumstances would you consider our product an infringement of the Canda patent?

You say if we actually made cars in 1903, using two complete systems of ignition, using two spark plugs in each cylinder, you would be very glad for the information, and will have an apology to offer for the statement that you did not know we were in the automobile business. You can make the apology now or wait until you have further evidence; but it is going to be up to you.

And now one word in conclusion, and that is, Mr. Apperson, is it not possible that since you were not familiar with those engaged in the automobile business at this earlier period and with what they were doing, that there are many other things in the art about which you are not well informed?

Yours very truly,

THE BARTHOLOMEW COMPANY,
Per J. B. BARTHOLOMEW, President.

NEW BOOKS FOR THE AUTOIST

Magnetos for Automobilists.—This 64-page book is written by S. R. Bottone, and the publisher is the D. Van Nostrand Company, New York City. The book is full of meat in acceptable form for the autoist who wants to know about magnetos and other means of ignition. It is a skilled résumé of the situation, involving as it does divers problems, intricate in a sense, so plainly depicted as to clearly indicate the skill of the author, who, by the way, is too well known to require any introduction at all. The historical chapter is of interest, and is followed by a chapter about materials; then there is a discussion of special forms, and enough to say on the phase of the problem involving the several applications, with deductions of value. The price of the book is $1.

THE AUTOMOBILE CALENDAR.

AMERICAN.

Shows and Meetings.

Jan. 27-Feb. 3..Philadelphia, Second Regiment Armory, Eighth Annual Show, Philadelphia Automobile Trade Association.

Feb. 6-13.....Chicago Coliseum and First Regiment Armory, Eighth Annual National Exhibition, National Association of Automobile Manufacturers. S. A. Miles, Manager, 7 East 42d St., New York.

Feb. 15-20.....St. Louis, New Coliseum Building, Third Annual Show, St. Louis Automobile Manufacturers' and Dealers' Association. John J. Behen, Chairman.

Feb. 15-20.....Detroit, Wayne Pavilion, Annual Show, Detroit Automobile Dealers' Association. E. LeRoy Pelletier, Manager.

Feb. 22-27.....Cleveland, First Regiment Armory, Annual Show, Cleveland Automobile Dealers' Company.

Feb. 15-20.....Bangor, Me., Auditorium, Eastern Maine Automobile Show.

Feb. 16-18.....Denver, Colo., Auditorium, First Annual Automobile Show, Denver Motor Club.

Feb. 18-25.....Toronto, St. Lawrence Arena, Third Annual National Automobile, Motor Boat and Sportsmen's Exhibition. Ontario Motor League. R. M. Jaffray, Manager.

Feb. 20-27.....Newark, N. J., Essex Troop Armory, Roseville Avenue. Second Annual Show New Jersey Automobile Trade Association. H. A. Bonnell, Manager.

Feb. 20-27.....Hartford, Conn., Second Annual Show, Hartford Automobile Dealers' Association.

Feb. 24-27.....Omaha, Fourth Annual Automobile Show, Omaha Automobile Show Association. C. N. Powell, Sec'y.

Mar. 1-6.....Buffalo, Convention Hall, Annual Show, Automobile Club of Buffalo. D. H. Lewis, Secretary.

Mar. 6-13.....Boston, Mechanics Building, Seventh Annual Automobile Show, Boston Automobile Dealers' Association. C. I. Campbell, Manager, 5 Park Square.

Mar. 8-13.....Kansas City, Kansas City Automobile Dealers' Association Show.

Mar. 8-14.....Portland, Ore., First Annual Automobile and Sportsman's Show, Portland Automobile Club. W. F. Lipman, Secretary.

Mar. 11-13.....Milwaukee, Wis., Hippodrome, First Annual Show of Milwaukee Automobile Club.

Mar. 13-20.....Minneapolis, Minn., National Guard Armory, Second Annual Show, Minneapolis Automobile Show Association. F. E. Murphy, Secretary.

Mar. 15-20.....Rochester, N. Y., Convention Hall, Annual Show, Rochester Automobile Dealers' Association. Charles J. Moran, Exhibition Manager.

Mar. 27-Apr. 3..Pittsburg, Duquesne Garden, Automobile Show, Pittsburg Automobile Dealers' Association.

Races, Hill-climbs, Etc.

Feb. 20-22.....New Orleans, Fair Grounds Track, Mardi Gras Race Meet, New Orleans Automobile Club. Henry George, Secretary.

Mar. 5-12.....Palm Beach, Fla., Lake Worth, Fifth Annual Regatta. Palm Beach Power Boat Association.

Mar. 23-26.....Daytona, Fla., Seventh Annual Florida Beach Races, Florida East Coast Automobile Association. New York Representative, W. J. Morgan, Thoroughfare Building.

FOREIGN.

Shows.

Jan. 30-Feb. 14.Turin, Italy, Palais des Beaux Arts, Automobile Salon.

Mar. 15-31.....Vienna, Austria, Automobile Exposition, Automobile Club of Austria.

Races, Hill-climbs, Etc.

Mar. 31-Apr. 14.Monaco, Italy, Annual Motor Boat Regatta and Championships.

May 2.....Sicily, Targa Florio, Automobile Club of Italy.

May 26.....Russia, Moscow—St. Petersburg Race.

June 10-18.....Germany, Prince Henry Cup Competition.

June 14-19.....Scotland, Scottish Reliability Trials.

July 1-3.....France, Angers Course, Grand Prix, Automobile Club of France.

July 13-17.....Belgium, Ostead Automobile Race Week.

Sept. 5.....France, Mont Venteoux Hill Climb.

Sept. 11-19.....Italy, Bologne, Florio Cup Race, Automobile Club Bologne.

LETTERS INTERESTING AND INSTRUCTIVE

TO MAKE THE SPRINGS BEHAVE PROPERLY.

Editor THE AUTOMOBILE:

[1,711.]—I have followed your articles on springs and shock absorbers with great interest, but have not found definite answers to some questions. My runabout has rear seat attachment, and when heavily loaded rides very nicely, but as a runabout is "hard" riding, the springs being evidently much too stiff. As I understand it, there is no kind of shock absorbers that would help matters in this case. I could make room for coil springs, made to order, at the end of the present leaf springs that would give three or possibly four inches of play there on the principle of those spiral springs I see advertised for this purpose. I am afraid the advertised ones would not give me enough play to be of much value.

Please advise me what can best be done to make it ride as easy when as a runabout as with 400 pounds more in it. Could I use coil springs to take the place of the 400 pounds extra weight to act in opposition to the leaf springs now on there? It seems to me this would work if the coil springs could be made to exert about the same pressure through their required range of action. How would it be to put on light springs that would give the body chance to come down four or five inches before bumping and some kind of shock absorbers that would cause the oscillating movements to be slower? In fact, I don't believe the "level platform" is so important as it is to reduce the rapidity of the up and down motion to a point where it ceases to throw us. I am bound to do something to make this car ride easier, but I do not know what to do, and your opinion will carry much weight with it.

Fulton, N. Y. CHARLES V. ARMSTRONG.

The problem is one to give you some little trouble any way you care to look at it. As a general proposition, it is necessary to stress the materials of which the springs are made to a point bordering upon the elastic limit, if it is desired to realize easy riding qualities with quite wide variations of the load. To take advantage of this method of proceeding requires the use of materials such as will stand the work for a length of time said to be satisfactory. Simultaneously, it is necessary to have the springs so long that the vertical bounce will be at a slow rate. This is a matter depending upon the length of the springs, just as the swing of a pendulum is dependent upon the length. When the length of a spring is fixed on a basis to satisfy this phase of the subject, then it is time to determine as to the volume of the material, such as will absorb the energy represented in the motion of the mass and the rate of change thereof. On the other hand, as before stated, if the material is not stressed to a point very near the elastic limit of the same, motion will not be arrested in a way to satisfy the conditions, especially if it is true that the load is not to be the same at all times. Whether or not you can approximate the conditions you have in mind through the use of coil springs, is a question to be arrived at on a basis called "cut and try." The "level platform," as referred to by you, is desirable, but you will have to go over the literature on the subject again; you failed to absorb the information.

EXPERIENCE WILL BEST TELL THE TALE.

Editor THE AUTOMOBILE:

[1,712.]—May an automobile agency be made a feasible, paying project in a small town, the total territory alloted to include three adjacent counties, fairly well populated and containing a number of small cities and villages? The promoter is a practising dentist who would do the correspondence and advertising from his office, and his partner is a reliable and dependable man who would give all his time to demonstrating and closing sales in all parts of the territory. A conveniently located barn can be rented for keeping a few machines in on arrival, obviating the necessity of an investment for that purpose. An agency for a reliable and very popular line can be secured on making a small cash deposit for five cars. What do you think of such a venture? A SUBSCRIBER.

Cumberland, Wis.

The proposition sounds all right and you have probably taken into account such conditions as roads, the class of people you will deal with, etc. You are very likely to find that some provision for small repairs will have to be made at an early date if you intend to establish an agency on a sound basis. Your customers will have to be taken care of.

TO DETERMINE GEAR RATIOS IN GEAR BOX.

Editor THE AUTOMOBILE:

[1,713.]—Kindly publish, in this week's issue if possible, how you would determine the ratio of the gears in a car when same is on low gear, i.e., providing the standard ratio of the rear axle gears is 3:5 to 1 or 4 to 1. INTERESTED.

Given the fixed gear ratio in rear axle, the ratio of the gears in the gear-box may be determined by first fixing the speed at which you wish the car to travel with the motor turning over at a given number of revolutions per minute.

Let:

(1) The fixed reduction = 3.5 to 1.

(2) The speed of the car (for low gear) = eight miles per hour at 1,000 r.p.m. of the motor.

(3) The diameter of the rear wheels = 34 inches.

To travel eight miles per hour 34-inch wheels must make 79 (approx.) revolutions per minute, and with a 3.5 to 1 ratio in bevel-gear drive, the propeller shaft must make $79 \times 3.5 = 277$ r.p.m. (approx.). Then with a motor speed of 1,000 r.p.m. and propeller shaft turning at 277 r.p.m., the ratio of the low-speed gears will be as 1,000 is to 277, or about 3.6 to 1, giving a total reduction of about 12.5 to 1.

If you have access to an "Automobile Trade Directory" you will find tables on page 408 which will be of assistance in calculating these ratios.

INFLUENCE OF KEROSENE ON LUBRICATING OIL.

Editor THE AUTOMOBILE:

[1,714.]—What is recommended for lubricating oil in the automobile to keep the oil from congealing when the car is used in extremely cold weather? The belief is that kerosene or gasoline is sometimes mixed with the oil for the purpose. Can you advise as to the right proportions to use? B. B. B.

Waterbury, Conn.

Excess mobility in lubricating oil is the phenomenon noted when the oil shows a decided tendency to solidify as the temperature is lowered. The right grade of oil would be the grade which would hold to a constant viscosity under all likely conditions of temperature. Some of the grades of oil are more perfect in this respect than are others and it is advantageous to pay more money for the grades of oil which do show the requisite properties.

Constant mobility is quite out of the question, to be sure, and the refiners of oil practice the art of furnishing lubricating oil in several selections as respects viscosity. The right course, then, is to use thin oil in cold weather, thin enough so that it will flow, and as the weather warms up the selection should be in favor of the heavier grades of oil.

As respects kerosene and gasoline in the lubricating oil, enough it is to say the oil is ruined for the purpose of lubricating if it is thus diluted. Proof of this is given in the plan by which kerosene is used in clutch oil if the clutch will not hold. In a word, lubricating oil in the clutch is too slippery, and kerosene is added to diminish the unctuousness on the one hand, and a still more important property on the other, namely, the ability of lubricating oil to persist in remaining between two surfaces under great pressure. In the case of the clutch it is desired to have the oil squeeze out from the discs with ease. This ease would be ruinous to a crankshaft bearing, as will be self-evident.

But the story is not even half told: the "flash point" of the lubricating oil is of the greatest importance, and this point will be much altered if the oil is tinkered with. The flash point of kerosene is low in comparison with the same point of lubricating oil, and while the writer has not the data of the resultant flash point before him, yet even so it is a good guess that the resultant flash point will be so low as to defeat the whole project.

Constantly feeding kerosene to the cylinders of a motor, even

if the same is sneaked in with the lubricating oil, is bound to result in the unbalancing of the explosive mixture, and, too, it is plain that the question of "carbon deposit" will be rendered the more prominent. Nor is it believed that the question is all in; it would be a subject for more than a little investigation before all the ills of such a procedure would be on the surface; the trouble is that the reasons as they are known are so many and so formidable as to demand no further thought at the expense of time or money.

BROKEN-DOWN SPARK COIL HARD TO REPAIR.

Editor THE AUTOMOBILE:

[1,715.]—I would like to have your opinion on the following: I have a double Caunet (?) coil, which has been working quite well until the last few weeks. But there seems to be a short circuit somewhere in the coil when there is no contact at the timer and when the current is thrown on a small spark may be seen at the plugs if the secondary is touched to the plug. What part of the coil is most likely to be injured? Will the current break through the insulation on the primary windings of the coil? How does this current get through the coil? The coil will buzz only part of the time. Where is the "safety gap" put in the coil? Would it help matters any to re-wind the secondary? E. H. SCHROEDER.

High River, Alta.

It would be within the range of facts to consider that the timer is short-circuited. If the timer is out of order it will be easy to account for the intermittent service you claim is rendered. If there is a "safety gap" provided it will be in sight. As regards the breaking down of the insulation in the coil, it is probably due to the building up of the electromotive force to a point in excess of the ability of the insulation on the windings. Sometimes it is possible for the coil to work even with a partial short-circuit, and you will find that by closing in the gap of the plugs to the minimum (say, the thickness of a visiting card) the insulation will be relieved of much of the electrostatic strain and it may then be capable of sustaining in service.

You will not be able to rewind the secondary, in all probability, for the reason that the winding is of great length, and it is done in a machine. You would have difficulty in getting so much wire on the spool even were you to use new wire. If the coil is not filled with paraffine you can bake it in an oven at a gentle heat for some time to drive out the water and then you can boil it in paraffine, which may be the means of lifting the short circuit, if one there is.

Before doing anything to the coil look for your trouble in the wiring or in the timer. Make sure that the battery is in good order and examine the ground connections. A loose joint would do just what you claim is happening.

CHAUFFEUR IS REGARDED AS A PAID EMPLOYEE.

Editor THE AUTOMOBILE:

[1,716.]—Please answer the following questions in THE AUTOMOBILE as soon as possible:

1. Is there any difference between a driver and a chauffeur?
2. Is it necessary for a chauffeur to have a license in Iowa? In other States? How may it be obtained?
3. Where could I get a book which maps out all the country roads in the central and eastern part of Iowa? A READER.

Onita, Ia.

(1) If you drive your own car you are not a chauffeur; on the other hand, if you are a chauffeur you are also a driver; it is fair to explain the situation as it seems to adhere to the minds of autoists in general. On the other hand, the word "chauffeur" is defined as a noun and the chauffeur is defined as fireman, stoker and on certain other occasions as a robber. (See Spiers & Surenne's French Pronouncing Dictionary.) Taking the last definition as the correct one, it is plain that you cannot drive your own car as a chauffeur. In all probability, the word chauffeur was expanded to include drivers of automobiles, through the use of steam boilers and engines, in the early types of automobiles. They were so designed as to require a fireman (chauffeur) and when the change came the fireman was advanced to the new position, holding to the old name. In this will be seen evidence of the fact that the chauffeur is as a paid employee.

(2) The paid employee may be required to take out a license. You, as an owner, will not have to do so, but you will have to file your name and address, with a description of the machine, on a prepared blank in the office of the Secretary of State. Upon application the Secretary will forward to you a blank for the purpose. As a chauffeur apply to the office of the Secretary of State (by letter) for a copy of the law in relation to the matter. For other States go through the same process.

(3) A book mapping all the country roads in Iowa may be difficult to find. The "Automobile Blue Book" is the nearest thing to it.

COMPOUNDS FOR PROLONGING LIFE OF RUBBER.

Editor THE AUTOMOBILE:

[1,717.]—Kindly tell me what you may know of the virtue or otherwise of a liquid on the market known as "Rubberlife." It is said to harden, increase the resiliency and revive rubber; therefore to greatly prolong the life of automobile tires when duly applied. L. N. DAVIS, M.D.

Farmland, Ind.

Possibly the makers of the product to which you refer will be willing to advise you of the qualities of the material for the purpose. In the meantime it may not be out of place to observe that it is not desirable to "harden" the rubber; what is wanted is to conserve the good condition which is present in the new tires. If the air is the cushion in fact and the tire is merely an envelope, it is a fact that the minimum value of the equation which follows is what is wanted.

$$\frac{\text{Work required to strain the body}}{\text{Work returned by the body}} = \text{minimum value for best result.}$$

It would seem as if the tire should be as flexible as possible if the loss in the tire is to be the minimum. The life of rubber is prolonged if it is kept free from wounds, and if the atmosphere is not too dry, provided "direct light" is warded off. Tires should be allowed to hold to their natural shape, else the fabric will become weakened in consequence of deformations.

WANTS TO KNOW ABOUT SPROCKET RATIOS.

Editor THE AUTOMOBILE:

[1,718.]—Would a 24-tooth sprocket be a suitable sized one for the rear axle of a light 12-horsepower runabout having a planetary transmission fitted with a 10-tooth sprocket? Direct drive by roller chain is used. The engine is a horizontal opposed, with 4 1-4-inch cylinders, and runs at the average rate of speed of this type. The rear wheels have 30x3 1-2-inch tires. Will you please mention some of the sprocket ratios used on different chain-driven cars of about this power?

If you can give me the name of a firm from which one could obtain 4 1-4-inch piston rings, 5-16-inch wide, and answer the above, you will greatly oblige, M. R. S.

Springfield, Mass.

Would recommend that you use 14 teeth in the pinion, and use at least three times as many teeth in the mate. If you are compelled to keep to a low limit, then it is to tolerate a condition which cannot be looked upon as healthy. On high gear the ratio ranges between 3 to 4 in usual cases. You can procure what you want by way of piston rings from the maker of your motor, or, from some maker of motors; see advertising columns of THE AUTOMOBILE. Then there is the "Automobile Trade Directory," in which you will find much valuable information in relation to such and kindred matters.

TAKE A LOOK AT THE IGNITION SYSTEM.

Editor THE AUTOMOBILE:

[1,719.]—I saw an answer to my inquiry in "Letters Interesting and Instructive" in your show number. I have put a Schebler on my Franklin 1904 car, and still it will not start without priming when cold, no matter how hard I turn the motor over, although the motor does not choke up when I open the throttle up. Can you give me any remedy for this? I saw an article in "The Automobile" in this same department saying that by putting a teaspoonful of flake graphite in the lubricating oil every two weeks it would give motor good compression. Would graphite (flake) hurt an air-cooled motor?

How is the low speed and reverse tightened up on the 1904 Franklin? It has a planetary transmission. Do you have any diagram of how to put a fan in a 1904 Franklin, and what would be needed in the way of fixtures and bearings?

Your show number was certainly a dandy. Keep up the good work and you will never know failure.

Corona, L. I. CHARLES B. FRANKS.

One of two points will have to be settled before you can make any further headway. In the first place you cannot be sure that your new carbureter is properly adjusted until the motor can be started without priming. In the meantime take a look at the ignition system and see if it is all right. Make sure of the battery.

Graphite in proper form should be of advantage to you. Confer with the venders of the same; they will gladly give you the benefit of a vast experience.

Write to the Franklin Company; the chances of realizing the best information from first sources are always good.

ABOUT THE FIXED POINT OF IGNITION.

Editor THE AUTOMOBILE:

[1,720.]—Will you kindly publish in your "Letters Interesting and Instructive" some information on two types of magnetos, viz., one using a spark advance, as in the battery and coil system, and the other using a fixed point of ignition. I contemplate adding a magneto to the equipment on my car and have been told and think I have read in your columns that the fixed point of ignition was the better of the two, as it tended to lengthen the life of the motor and give as good service as the system which used the advance. Will you please state in your columns whether the system using the fixed point of ignition is O. K. and whether or not it will give the same results as the other system? An answer to my query will be appreciated. CINCINNATI.

Cincinnati, O.

By using the magneto with the fixed point of ignition you will get a good average result and through its use the possibility of bad performances are at a minimum. In very large motors the cranking difficulty is great. In certain classes of service it is an advantage to have the fixed point of ignition, as in taxicab work, but it is not necessary to an autoist who drives his own car.

BUT A. A. A. CLUBS ARE DOING MUCH.

Editor THE AUTOMOBILE:

[1,721.]—Quite a few months ago I wrote an article which you published, suggesting the formation of an "Automobile Owners' Protective Association." This, I believe, is becoming more of a necessity every day, as it is the only way to remedy many abuses we have now to endure, such as extortionate charges of some garages and hotels; using of cars for so-called "joy rides"; unjust arrests by constables or deputy sheriffs, otherwise known to owners as "road agents."

There are many benefits to be gained by owners getting together, such as combined purchasing power, besides endeavoring to correct above evils; also aiding members on road when they are in any kind of trouble; in fact, the subject is so full of suggestions and possibilities and benefits, such as are not derived from belonging to a local automobile club—for that is more of a social affair—whereas what I suggest is a business matter for mutual protection and profit to its members. WILLIAM D. THOMAS.

Brooklyn, N. Y.

Is it not possible to induce the automobile club to extend its zone of activity, if it is generally believed that there is a need for these added benefits.

THE USE OF LEATHER TIRE CASINGS.

Editor THE AUTOMOBILE:

[1,722.]—I would like to know through "Letters Interesting and Instructive" if the leather tire casings which are advertised are good. Do they protect the case and prevent so-called punctures? As all the ruptures that I have had come on the inside of the tube next the rim, will the case last longer with them? Will not gravel and sand get in between the cover and the case and chafe? Do they make the car run harder? Please give me the advantages of them, if any. W. F. STETSON.

Cherry Creek, N. Y.

Anything which will tend to increase the life of the tires is good, and as many autoists continue to use the leather casings it is pretty good evidence that they are doing good work.

DEPENDS UPON THE AUTOMOBILE ENTIRELY.

Editor THE AUTOMOBILE:

[1,723.]—Would you please tell me in your "Letters Interesting and Instructive" what angle do the forward wheels take when making a short turn and how to find the answer of any turn?

New York. M. L. C.

As a general statement it will be possible to say the wheels cant over about 36 degrees, maximum. As a matter of fact, the maximum possible cant is dependent upon the section of the tires, the diameter of the road wheels, and the space between the wheels and the chassis frame. On the other hand, the mean turning radius of a car depends upon the length of the wheelbase of the same, if it is desired to avoid undue tire strains. Taking the length of the wheelbase as the sine of the angle, then it is possible to ascertain, that the radius, which will be found on a basis of the sine given, will equal the mean turning radius of the car.

FRANKLIN CONCENTRIC VALVE PERFORMANCE.

Editor THE AUTOMOBILE:

[1,724.]—I have been much interested in the "Letters Interesting and Instructive" department of your paper, and as I have just purchased a Franklin, Type D, car (not yet received), will appreciate a detailed explanation of the working of the Franklin concentric valve. W. K. E.

Charleston, W. Va.

You will find the literature of the Franklin Company is so plain as to serve your purpose most thoroughly if you will look it over. Any explanation of the working of the concentric valves that might be printed here would simply be a repetition of that contained in the Franklin instruction book.

DOPE IN THE GASOLINE.

Editor THE AUTOMOBILE:

[1,725.]—What amount of ether do some racing cars use in their gasoline; someone said two teaspoonfuls to a gallon. Is this correct? What is the use of having ball and socket joints for brake rods and other minor parts instead of simple clevis joints?

Middletown, N. Y. A SUBSCRIBER.

We have no definite information in relation to ether in gasoline. Perforce, some user will enlighten us through the columns of "Letters Interesting and Instructive." The ball joint is adjustable, and the surface is that of a sphere, which is the maximum.

ANTI-FREEZING SOLUTIONS IN THE SOUTH.

Editor THE AUTOMOBILE:

[1,726.]—Kindly advise me what is the best anti-freeze to use and proportion necessary to prevent freezing at different temperatures.

Columbia, S. C. S. B. FISHBURNE, M.D.

If raw corn whiskey is cheaper in the South than alcohol, use it. Add to the whiskey an equal amount of water. It may "slush" at a very low temperature, which will do no harm. See issue of THE AUTOMOBILE, November 19, 1908, it deals with this question at some length.

HOW OLD IS AN ODOMETER?

Editor THE AUTOMOBILE:

[1,727.]—In the "Diary of John Evelyn," published by Charles Scribner & Sons, New York, under date of August 6, 1657, is the following:

> "I went to see Col. Blount, who shewed me the application of the WAY-WISER to a coach, exactly measuring the miles, and shewing them by an index as we went on. It had three circles, one pointing to the number of rods, another to the miles by 10 to 1,000, with all the subdivisions of quarters; very pretty and usefull."

This shows its use at least 250 years ago, and may be interesting information to some of your readers. X. Y. Z.

Portsmouth, N. H.

SKEIN IS UNRAVELED FOR NO. 1,696.

Editor THE AUTOMOBILE:

[1,728.]—The carbureter popping in the case of No. 1,696 is undoubtedly due to a leaky valve. Had the same trouble myself. Repairmen were puzzled, and, after I had spent over $100, a new cylinder and valves cured the trouble. ELIOT GORTON.

Summit, N. J.

Earl Russell's White Steamer Bears British No. "A-1."

WHITE STEAMER FIRST CAR IN BRITAIN.

LONDON, Jan. 21.—On the last day of 1908 the total number of motor vehicles registered in London to date reached just short of the 40,000 mark. It is interesting to note that the first of this big number was a White steamer, the property of Earl Russell, which consequently has A1 on its number plates. The accompanying photos of this car were taken at Ramsey, Isle of Man, at the last of the Tourist Trophy races. Earl Russell, who is a member of the R. A. C. committee, is in the driving seat, with the chauffeur alongside. Lady Russell is sitting in the back of the car, and standing up in the tonneau is Col. Holden, the ex-chairman of the competitions committee, while at the side is Mr. Merwyn O'Gorman, chairman of the technical committee.

WHAT MICHIGAN'S ROAD MAKER WANTS.

DETROIT, Jan. 18.—If State Highway Commissioner Horatio S. Earle has his way automobilists will no longer be permitted to spin about the State utilizing the model highways constructed primarily for the benefit of the honest tiller of the soil without paying for the privilege. Commissioner Earle will ask the present Legislature to impose a tax on automobiles for road purposes, the rate proposed being 10 cents per horsepower per year. As there are some 7,000 automobiles owned in Michigan, it will be seen that such a course would add a nice little sum each year to the good roads fund.

However, Michigan is already contributing liberally to the good roads cause. Commissioner Earle will ask for $215,000 from the Legislature this year and $320,000 next. Inasmuch as there are more automobiles manufactured in Detroit and Michigan than in a similar area in the country, and inasmuch as the makers and owners are called upon to bear their portion of the good roads appropriation in addition to the proposed tax, it is not at all likely that Commissioner Earle will have clear sailing with his latest project, motorists generally feeling that they are doing their share without the imposition of a further burden.

SENATE SAYS TAFT CANNOT HAVE AUTOS.

WASHINGTON, Jan. 21.—President Taft will have to walk, stick to the saddle or be conveyed from place to place in street cars or in horse-drawn vehicles.

The Senate Committee on Appropriations to-day ran across an item in the Urgent Deficiency Bill granting $12,000 for the purchase and care of automobiles for the use of the executive office. The automobile has not made many friends in the Senate, as was disclosed in the debate of the last few days on the proposed purchase of such vehicles for government officials, and the committee struck the item out. The appropriateness of the automobile in the service of the President is scarcely to be questioned, and it is pretty nearly certain that Congress will reconsider anon.

OREGON'S COOS BAY COUNTRY.

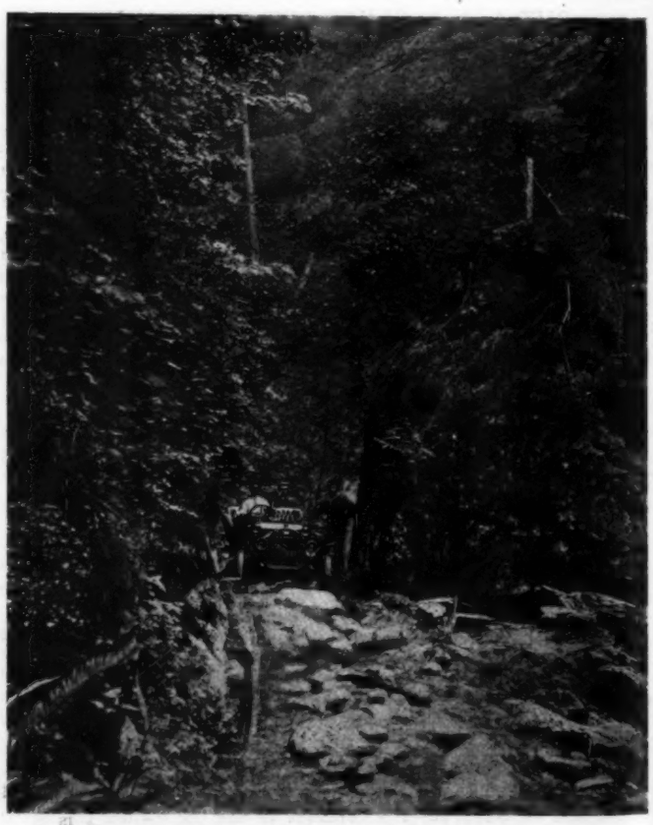
PORTLAND, ORE., Jan. 23.—One of the richest endowed regions, from a scenic point of view, anywhere on the Pacific Coast will, it is believed, be this year opened up and made easy of access for the tourist's automobile. This is the Coos Bay country and the mountains lying between this natural harbor and the railroad. All this district has been penertated by only a few automobilists.

The State of Oregon has within its borders three or four regions of high cultivation within themselves, but difficult to reach from the outside for several months each year. The Coos Bay country in the southwestern part of the State is accessible by land only after a long stage ride which, no matter which route the traveler takes, is about 60 miles.

So general has become the demand for better roads that it is now determined the present year shall see the completion of a better highway from Roseburg, on the Southern Pacific, to Coos Bay, on which are several live, thriving towns. The question at present is not whether there shall be a road, but which route shall be utilized. One road brings the traveler from the railway to Myrtle Point, where after a long stage journey he takes the little railroad which skirts the shores of the bay. The other route is called the Coos Bay wagon road. Both routes are now covered by stages.

The first auto trip over the Myrtle Point road was made last Summer by A. H. Stutsman, of Marshfield, the principal town of the bay group. He went to Roseburg and back, and at once began agitating for an automobile thoroughfare to the Southern Pacific, for he declared there were no obstacles which could not easily be overcome. Henry Harth, of Roseburg, took a party of friends over the road a little later.

Crossing the Coast Range of mountains, this road, and the so-called Coos Bay route as well, afford the man who seeks something new in scenery many opportunities to gratifying his view-loving senses. The incline is 12 miles up one side of the range and four miles down the other side, and every rod of the distance is worth traveling for its scenic beauties. The summit is 3,000 feet above the level of the Pacific. Mr. Harth, among others, prefers the Coos Bay route.



First Auto Through Devil's Gate, Coos Bay, Oregon.

EFFORTS TOWARDS UNIFORM AUTOMOBILE LAW

THE desirability of a uniform automobile law is generally recognized and any effort in this direction seems assured in advance to meet the unanimous support of a large majority of automobilists. Governor Hughes, in his annual message to the New York State Legislature, recommended the adoption by New York and neighboring States of a uniform motor vehicle law, and suggested that the work could be properly done within the purview of the duties of the Commissioners on Uniform State Laws.

Pursuant to the suggestion of Governor Hughes, the Commissioners on Uniform State Laws of New York, New Jersey and Connecticut were invited to a conference, which was of considerable duration, the various diversities at present existing in the laws of the States were discussed and plans laid for the elimination of the differences as far as might be. The conference requested that Charles Thaddeus Terry, who is one of the commissioners from New York and also chairman of the A. A. A. Legislative Board, draft a proposed uniform act to form the basis for the deliberations of the conference. This has now been done. The draft has been printed, and copies have been distributed among the commissioners of the States in question.

The next meeting of the conference will be held in New York City on Saturday of this week, when it is anticipated that the final form of the bill to be recommended to the several legislatures will be decided upon. Suggestions with reference to and criticisms of the bill are invited and will receive the attention of the conference. The matter being one of such vital interest to all concerned, it has been deemed advisable to print in full the following draft of the proposed law:

AN ACT

PROVIDING FOR THE REGISTRATION, IDENTIFICATION AND REGULATION OF MOTOR VEHICLES OPERATED UPON THE PUBLIC HIGHWAYS OF THIS STATE, AND OF THE OPERATORS OF SUCH VEHICLES; AND PROVIDING A FUND FOR THE MAINTENANCE AND IMPROVEMENT OF THE PUBLIC HIGHWAYS OF THIS STATE.

The People of the State of..... represented in Senate and Assembly, Do Enact as follows:

Section 1. Definitions.—The Term "motor vehicle" as used in this act, except where otherwise expressly provided, shall include all vehicles propelled by any power other than muscular power, except motor-bicycles, motor-cycles, traction engines, road rollers, fire wagons, engines, police patrol wagons, ambulances and such vehicles as run only upon rails or tracks. The term "local authorities" shall include all officers of counties, cities, boroughs, towns or villages, as well as all boards, committees and other public officials of such counties, cities, boroughs, towns or villages. The term "chauffeur" shall mean any person operating a motor vehicle for hire, or as the employee of the owner thereof. The term "state" as used in this act, except where otherwise expressly provided, shall also include the territories and the federal districts of the United States. The term "owner" shall also include any person, firm, association or corporation renting a motor vehicle or having the exclusive use thereof, under a lease or otherwise, for a period greater than thirty days. The term "public highway" shall include any highway, county road, state road, public street, avenue, alley, park, parkway or public place in any county, city, borough, town or village, except any speedway which may have been or may be expressly set apart by law for the exclusive use of horses and light carriages.

Sec. 2. Subdivision 1. Registration of Motor Vehicles.—Every owner of a motor vehicle which shall be operated or driven upon the public highways of this state, shall, for each motor vehicle owned, except as herein otherwise expressly provided, cause to be filed, by mail or otherwise, in the office of the secretary of state a verified application for registration on a blank to be furnished by the secretary of state for that purpose, containing: (1) A brief description of the motor vehicle to be registered, including the name of the manufacturer, the style, type and factory number of such vehicle, the character of the motor power and the amount of such motor power stated in figures of horsepower. (2) The name, residence and business address of the owner of such motor vehicle and the name of the county in which he resides; provided that if such motor vehicle is used or to be used solely for commercial purposes, or, if propelled by electric battery power, is used or to be used solely within the confines of a city, the applicant shall so certify.

Subd. 2. Registration Book.—Upon the receipt of an application for registration of a motor vehicle or vehicles as provided in this section and in section four of this act, the secretary of state shall file such application in his office and register such motor vehicle or vehicles with the name, residence and business address of the owner, manufacturer or dealer as the case may be, together with the facts stated in such application, in a book or index to be kept for the purpose, under the distinctive number assigned to such motor vehicle by the secretary of state, which book or index shall be open to inspection during reasonable business hours.

Subd. 3. Certificate of Registration.—Upon the filing of such application and the payment of the fee provided in subdivision six of this section, the secretary of state shall assign to such motor vehicle a distinctive number, and, without expense to the applicant, issue and deliver to the owner a certificate of registration, in duplicate, in the form and size provided in subdivision three hereof. In the event of the loss, mutilation or destruction of a certificate of registration, the owner of a registered motor vehicle may obtain from the secretary of state a duplicate thereof, upon filing in the office of the secretary of state an affidavit showing the fact and the payment of a fee of one dollar for each duplicate.

Subd. 4. Registration Lists to be Furnished County Clerks.—The secretary of state shall, within sixty days after this act takes effect, and thereafter, on or before the first day of February of each year, furnish to the clerk of every county in the state a full and accurate list of all motor vehicles so registered, stating the distinctive numbers so assigned to them and the names, residences and business addresses of the owners, manufacturers or dealers, as the case may be, and once each month thereafter a similar list of the additional registrations, which additional list shall be entered by each county clerk upon the original list received by him. Such lists shall be filed by such county clerks and be kept as public records, open to inspection during reasonable business hours.

Subd. 5. Re-registration Annually.—Such registration shall be renewed annually in the same manner and upon the payment of the same fee as provided in this section for original registration. Such renewal to take effect on the first day of January of each year.

Subd. 6. Registration Fees.—The following fees shall be paid to the secretary of state upon the registration of a motor vehicle in accordance with the provisions of this act: Three dollars upon the registration of a motor vehicle having a rating of less than twenty horsepower; five dollars upon the registration of a motor vehicle having a rating of twenty horsepower and less than thirty horsepower, and ten dollars upon the registration of a motor vehicle having a rating of thirty horsepower or more; and if a motor vehicle has two ratings of horsepower, the registration fee shall be based on the higher rating; provided that the owner of any motor vehicle which has been registered under existing law subsequent to the.....day of..... one thousand nine hundred and.....shall be entitled to a credit or rebate of the fees paid under such law for such registration; and provided further that for motor vehicles which in the verified application for registration are stated to be used solely for commercial purposes, or, if propelled by electric battery power, to be used solely within the confines of a city, the fee for such registration shall be five dollars.

Subd. 7. Sale and Registration by Vendee.—Upon the sale of a motor vehicle registered in accordance with this section, the vendee shall, within ten days after the date of such sale, notify the secretary of state of the same upon a blank furnished by him for that purpose, stating the name and business address of the previous owner, if known, the number under which such motor vehicle is registered and the name, residence and business address of such vendee. Upon filing such statement such vendee shall pay to the secretary of state a fee of one dollar, and upon receipt of such statement and fee the secretary of state shall file such statement in his office and note upon the registration book or index such change in ownership, and at least monthly notify every county clerk of the state of such sales, each of whom shall immediately note the same on the list of registered vehicles received and kept on file by him as herein provided.

Subd. 8. Fees in Lieu of Taxes.—The registration fees imposed by this act upon motor vehicles other than those of manufacturers and dealers and those used solely for commercial purposes, shall be in lieu of all other taxes, general or local, to which motor vehicles may be subjected as personal property under the laws of this state.

Sec. 3. Subd. 1. Distinctive Number Must Be Carried on Motor Vehicles.—No person shall operate or drive a motor vehicle on the public highways of this state after the.....day of..... nineteen hundred and....., unless such vehicle shall have the certificates of registration assigned to it by the secretary of state conspicuously displayed, one on the front and one on the rear of such vehicle, each securely fastened so as to prevent the same from swinging, provided that the owners of motor vehicles registered and assigned numbers under any law in force at the time this act takes effect, shall continue to display such numbers thereon until the.....day of....., nineteen hundred and..... No person shall display on such vehicle at the same time any number assigned to it under any other motor vehicle law or ordinace.

Subd. 2. Color of Number Plate to Be Changed Annually.—Such certificates of registration shall be of a distinctly different color or shade each year, to be designated and selected by the secretary of state, and there shall be at all times a marked contrast between the color of the number plates and that of the numerals or letters thereon.

Subd. 3. Form of Certificate.—Such certificate of registration shall be an enameled plate or placard of metal, four and one-half inches wide and not more than twelve inches in length, in the upper left hand corner of which there shall be a fac-simile of the seal of the state, underneath which there shall be the initials " ," and to the right of which seal and initials there shall be the distinctive number assigned to the vehicle set forth in numerals three inches long, each stroke of which shall be at least one-half an inch in width; provided that in the case of a motor vehicle registered under section four of this act there shall be on such plate or placard in addition to the foregoing the letter "M," the same to be at the right of the distinctive number, each stroke of such letter to be at least three inches long and one-half an inch in width.

Sec. 4. Subdivision 1. Registration by Manufacturers and Dealers.—Every person, firm, association or corporation manufacturing or dealing in motor vehicles may, instead of registering each motor vehicle so manufactured or dealt in, make a verified application upon a blank to be furnished by the secretary of state for a general distinctive number for all the motor vehicles owned or controlled by such manufacturer or dealer, such application to contain: (1) a brief description of each style or type of motor vehicle manufactured or dealt in by such manufacturer or dealer, including the character of the motor power, the amount of such motor power stated in figures of horsepower, and the weight in pounds of each such style or type; and (2) the name, residence and business address of such manufacturer or dealer. On the payment of a registration fee of ten dollars, such application shall be filed and registered in the office of the secretary of state in the manner provided in section two of this act. There shall thereupon be assigned and issued to such manufacturer or dealer a general distinctive number and duplicate certificates of registration in the manner provided by section two, which shall be in the form of plates as provided in section three, duplicates of which shall be carried or displayed by every motor vehicle of such manufacturer or dealer, so registered when the same is driven or operated on the public highways. Such manufacturer or dealer may obtain as many duplicates of such certificates of registration as may be desired upon payment to the secretary of state of one dollar for each duplicate. Nothing in this subdivision shall be construed to apply to a motor vehicle operated by a manufacturer or dealer for private use or for hire.

Subd. 2. Re-registration Annually.—Such registration shall be renewed annually in the same manner upon the payment of a fee of ten dollars, such renewal to take effect on the first day of January of each year.

Sec. 5. Exemption of Non-resident Owners.—The provisions of the foregoing sections shall not apply to a motor vehicle owned by a non-resident of this state, provided that the owner thereof shall have complied with the provisions of the law of the state of his residence relative to motor vehicles and the operation thereof and shall conspicuously display his state number, and provided further that the provisions of the foregoing sections of this act are substantially in force in such state; provided that this exemption shall not apply to non-resident corporations doing business in this state.

Sec. 6. Subd. 1. Brakes, Horns, Lamps, et cetera.—Every motor vehicle, operated and driven upon the public highways of this state, shall be provided with adequate brakes sufficient to control the vehicle at all times, and a suitable and adequate bell, horn or other device for signaling, and shall, during the period from one hour after sunset to one hour before sunrise, display at least two lighted lamps on the front and one on the rear of such vehicle, which shall also display a red light visible from the rear. The white rays of such rear lamp shall shine upon the number plate carried on the rear of such vehicle. The light of the front lamps shall be visible at least two hundred feet in the direction in which the motor vehicle is proceeding.

Subd. 2. Use of Non-skidding Devices.—No person shall operate or drive on the public highways of this state a motor vehicle on any of whose wheels is a tire chain or non-skidding contrivance or tire composed in whole or in part of metal, except when such highways are wet and slippery or covered with ice or snow.

Subd. 3. Stopping on Signal.—A person operating a motor vehicle shall, at request or on signal by putting up the hand, from a person riding, leading or driving a horse or horses or other draft animals, bring such motor vehicle immediately to a stop, and, if traveling in the opposite direction, remain stationary, so long as may be reasonable to allow such horse or animal to pass, and, if traveling in the same direction, use reasonable caution in thereafter passing such horse or animal; provided that, in case such horse or animal appears badly frightened or the person operating such motor vehicle is requested so to do, such person shall cause the motor of such vehicle to cease running so long as it shall be reasonably necessary to prevent accident and insure the safety of others.

Sec. 7. Speed Permitted.—No person shall operate a motor vehicle upon the public highways of this state recklessly or at a rate of speed greater than is reasonable and proper having regard to the width, traffic and use of the highway, or so as to endanger property, or the life or limb of any person.

Sec. 8. Subdivision 1. Registration of Chauffeurs.—Every person hereafter desiring to operate a motor vehicle as a chauffeur shall file in the office of the secretary of state, upon the payment of a registration fee of five dollars, a verified application for registration on a blank to be furnished by the secretary of state for that purpose containing (1) the name and residence address of the applicant and that he is competent to operate a motor vehicle and is over 18 years of age; (2) the trade name and motor power of the motor vehicle or vehicles he is competent to operate; (3) whether or not the applicant has been previously convicted of a violation of any of the provisions of this or any other motor vehicle law or ordinance, giving the date and place of such conviction and the provision or provisions of the law or ordinance violated; provided that if such chauffeur shall intend to operate only vehicles used solely for commercial purposes, he shall so certify in such application and shall pay a registration fee of two dollars.

Subd. 2. Chauffeur's Registration Book; List to Be Furnished County Clerks.—Upon the receipt of such an application, the secretary of state shall thereupon file the same in his office, assign the applicant a number and register him in a book or index which shall be kept in the same manner as the book or index for the registration of motor vehicles. The secretary of state shall also furnish to the clerk of every county of the state within sixty days after this act takes effect and once each month thereafter, a full and accurate list of chauffeurs so registered, with their addresses and the numbers assigned to each, in the same manner as provided in section two with reference to registered motor vehicles. Such lists shall be filed by such county clerks and be kept as public records, open to inspection during reasonable business hours.

Subd. 3. Chauffeur's Badge.—The secretary of state shall forthwith upon registering such chauffeur, and without other fee, issue and deliver to him a badge of aluminum or other suitable metal, which shall be oval in form with its greater diameter not more than two inches, upon which shall be stamped the words "Registered Chauffeur Number .....; State of .....," with the number inserted therein. This badge shall thereafter be worn by such chauffeur, pinned upon his clothing in a conspicuous place, at all times while he is operating a motor vehicle upon the public highways of this state. In the event of the loss, mutilation or destruction of a chauffeur's badge, such chauffeur may obtain from the secretary of state a duplicate thereof upon filing in the office of the secretary of state an affidavit showing the fact and the payment of a fee of one dollar.

Subd. 4. Fictitious Badge.—No chauffeur, having registered as hereinbefore provided, shall voluntarily permit any other person to wear his badge; nor shall any person, while operating a motor vehicle upon the public highways of this state, wear a chauffeur's badge belonging to another person, or a fictitious chauffeur's badge.

Subd. 5. Unregistered Chauffeurs Cannot Drive Motor Vehicles.—No person shall operate or drive a motor vehicle as a chauffeur, upon the public highways of this state after thirty days after this act takes effect, unless such person shall have complied in all respects with the requirement of this section, provided, however, that a non-resident chauffeur, who has registered under the provisions of the law of the state of his residence which are substantially similar to the provisions of this section, shall be exempt from registration under this section; and provided further

he shall wear the badge assigned to him in the state of his residence in the manner provided in subdivision three of this section.

Sec. 9. Local Ordinances Prohibited.—Except as herein otherwise provided, local authorities shall have no power to pass, enforce or maintain any ordinance, rule or regulation requiring from any owner or chauffeur to whom this act is applicable, any tax, license or permit for the use of the public highways, or excluding any such owner or chauffeur from the free use of such public highways, or in any other way respecting motor vehicles or their speed upon or use of the public highways; and no ordinance, rule or regulation contrary to the provisions of this act, now in force or hereafter enacted, shall have any effect; provided however, that the powers given to local authorities to regulate vehicles offered to the public for hire, and processions, assemblages, or parades in the streets or public places, and all ordinances, rules and regulations which may have been, or which may be enacted in pursuance of such powers shall remain in full force and effect; and, provided, further, that local authorities may set aside for a given time a specified public highway for speed contests or races, to be conducted under proper restrictions for the safety of the public, and provided further, that local authorities may exclude motor vehicles from any cemetery or grounds used for the burial of the dead.

Sec. 10. Subdivision 1. Penalty for Violations of Sections Two, Three, Four, Five and Six.—The violation of any of the provisions of sections two, three, four, five and six of this act shall be punishable by a fine not exceeding fifty dollars.

Subd. 2. Penalty for Violations of Section Seven.—The violation of any of the provisions of section seven of this act shall be deemed a misdemeanor punishable by a fine not exceeding two hundred and fifty dollars for a first offense and by a fine not exceeding five hundred dollars or imprisonment for not more than six months or both for a second or subsequent offense; but nothing herein shall prevent the indictment of a person so violating under any other law.

Subd. 3. Penalties for Violations of Section Eight.—The violation of any of the provisions of section eight of this act shall be punishable by a fine not exceeding fifty dollars or the suspension of the right to operate a motor vehicle as a registered chauffeur under the provisions of this act for a period not more than six months.

Subd. 4. Penalty for Tampering With or Using a Motor Vehicle Without Permission.—Any person using, operating, driving or tampering with a motor vehicle without the permission of the owner of such motor vehicle is guilty of a misdemeanor punishable by a fine not exceeding five hundred dollars and imprisonment for not more than six months, or both.

Subd. 5. Certifying Convictions to the Secretary of State.—Upon the conviction of any person for a violation of any of the provisions of this act, the magistrate, or other judicial officer before whom the proceedings are held, shall immediately certify the facts of the case, including the name and address of the offender, the character of the punishment and the amount of any fine imposed and paid, to the secretary of state, who shall enter the same either in the book or index of registered motor vehicles or in the book or index of registered chauffeurs as the case may be, opposite the name of the person so convicted, and in the case of any other person, in a book or index of offenders to be kept for such purpose, in alphabetical order. The secretary of state shall send notices of all convictions for violations of section seven of this act, with the names and addresses of the persons convicted and the judgments of the court on such convictions, to the clerk of every county in the state, who shall enter the same on the lists of registered motor vehicles or registered chauffeurs as the case may be, opposite the name of the person so convicted, or on a list of other offenders which he shall maintain in his office as a public record in the same manner as the lists of registered motor vehicles and registered chauffeurs, and on due application furnish copies of such lists to the magistrates or other judicial officers of his county before whom violations of the provisions of this act are triable. If any such convictions shall be reversed upon appeal therefrom, the person whose conviction has been so reversed may serve on the secretary of state a certified copy of the order of reversal, whereupon the secretary of state shall enter the same in the proper book or index in connection with the record of such conviction, and shall also notify each county clerk of the same.

Subd. 6. Release from Custody, Bail, et cetera.—In case any person shall be taken into custody because of a violation of any of the provisions of this act, he shall forthwith be taken before the nearest magistrate or justice of the peace in any city, village or county, or before any accessible captain, sergeant of police or acting captain or sergeant of police who shall have the powers of a magistrate or justice of the peace, and be entitled to an immediate hearing; and if such hearing cannot then be had, be released from custody on giving a bond or undertaking executed by a fidelity or surety company authorized to do business in this state, such bond or undertaking to be in an amount not exceeding two hundred and fifty dollars for his appearance to answer for such violation at such time and place as shall then be indicated, or on giving his personal undertaking to appear to answer for such violation at such time and place as shall then be indicated, secured by the deposit of a sum not exceeding two hundred and fifty dollars, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or in case such person taken into custody is not the owner, by leaving the motor vehicle with a written consent given at the time by the owner who must be present, with such judicial officer; or in case such judicial officer is not accessible be forthwith released from custody on giving his name and address to the person making the arrest and depositing with such arresting officer the sum of two hundred and fifty dollars, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or in case such person taken into custody is not the owner, by leaving the motor vehicle with a written consent given at the time, by the owner, who must be present; provided that in such case, the officer making the arrest shall give a receipt in writing for such sum or vehicle deposited, and notify such person to appear before the most accessible magistrate, naming him, and specifying the place and the hour. In case such bond or undertaking shall not be given, or deposit made by an owner, or other person taken into custody, the provisions of law in reference to bail in cases of misdemeanor shall apply.

Subd. 7. Holding Defendant to Answer Where Magistrate Has Not Jurisdiction to Try Offender; Admitting to Bail.—In case the magistrate before whom any person shall be taken, charged with the violation of any provision of this act, shall not have jurisdiction to try the defendant, but shall hold the defendant to answer as provided by.....of the ....., he shall admit such defendant to bail upon his giving a surety company's bond or undertaking to appear to answer for such violation at such time and place as shall then be indicated, or upon his giving his written undertaking in the form provided in ..... of the ..... in a sum equal to the maximum fine for the offense with which he is charged, or upon depositing such amount in cash with such magistrate who shall give a receipt in writing for such sum.

Subd. 8. Return of Bail.—Upon the person who has been taken into custody and given security or bail for his appearance presenting himself for trial, the judicial officer before whom such person is to be tried, shall, before the beginning of such trial, return to the person about to be tried, the property or money given as security or bail.

Sec. 11. Subdivision 1. Registration Fees to Be Paid Into State Treasury.—The registration fees provided herein shall be paid by the secretary of state into the state treasury. The legislature shall annually make appropriations of an amount sufficient to pay all proper expenses of this act.

Subd. 2. Certain Fines and Penalties; to Whom Paid.—All fines, penalties or forfeitures imposed or collected for a violation of any of the provisions of this act, or of any act in relation to the use of the public highways by motor vehicles now in force or hereafter passed, which are imposed or collected under the sentence or judgment of a court of special sessions, held or presided over by a justice of the peace, shall be paid over by such justice of the peace within ten days after receipt thereof to the treasurer of the state, with a statement accompanying the same, setting forth the action or proceeding in which such moneys were collected, the name and residence of the defendant, the nature of the offense and the fine, penalty or sentence imposed. On the first day of each month, or within ten days thereafter, such justice of the peace shall make and forward to the treasurer of the state a verified report of all criminal proceedings instituted or tried before him during the preceding calendar month for violations of any of the provisions of this act, or of any act in relation to the use of the public highways by motor vehicles, which report shall set forth the name and address of the defendants, the nature of the offenses and the fines and penalties collected or imposed by such justice; which reports shall be public records and open to inspection during reasonable business hours.

Subd. 3. Registration Fees and Fines to Be Used for the Maintenance of Public Highways.—All moneys paid into the state treasury pursuant to this act, except such as shall be appropriated under subdivision one of this section, shall there be maintained as a separate fund for the maintenance and repair of the improved roads of this state.

Sec. 12. Acts Repealed.—All acts or parts of acts inconsistent herewith or contrary hereto are hereby expressly repealed.

Sec. 13. Title of Act and When It Takes Effect.—This act shall be known as the "Motor Vehicle Law" and shall take effect the first day of ....., nineteen hundred and .....; provided that applications for registration may be made and registration certificates and badges issued at any time within thirty days prior to such date.

THE AUTOMOBILE

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SHOWS WITH LESSER TRAPPINGS.

At this time of the year, after the closing of the second big show and just prior to the opening of the next one, a consideration of the show question is particularly appropriate. This is a question that has aroused much discussion and more comment abroad, particularly in France, where the need for financial retrenchment was more necessary. No solution has been reached, and in the meantime the shows will continue to be held, but on a more quiet, less expensive and more sane basis.

After it is all said and done, what does this elaborate display of mirrors, bunting, myriads of electric lights, bright fresh paint, and other show paraphernalia add to the real merit of the car? What do all these trappings help in the way of a better-running, longer-lived engine, a simpler transmission, a better frame, or a more suitable body? To answer this question is to answer, nothing, nothing at all! So then we are forced to the unwelcome but logical conclusion that money is spent in very large amounts for no useful purpose. Therefore, in time, it must cease, for the public, throwing the cold clear light of reason upon it, can only arrive at the same conclusion, that it is mostly useless and must go.

But in bringing manufacturer, selling agent, and buyer together for mutual benefits, the show serves some purpose. The objections, then, are founded only upon the basis of needless expenditures. Remove these and the objections are removed. What will be left then? The show of the future, robbed of all glitter and glamour, separated from all idea of display, simply a clean, clear exposition of the merits of the various products in the least expensive way. This then is the simple and sane show which manufacturers, sales agents, and buyers will welcome equally, for all will profit by it. Of course there should be some relieving of the monotony of an undecorated amphitheater, but now 'tis too elaborate for the necessities of the occasion.

* * *

THE CONTROL OF SPEED RACING.

It would appear that some of the manufacturers and importers still believe in the advertising value of high-speed automobile racing. It would also seem possible that the A. A. A. in relegating this branch of competition to such a secondary position as it has may have taken action which was slightly premature, in view of the unquestioned demand for a fairly liberal continuance, for at least another year, of speed contests. If upon a resurvey of the situation evidence is plentiful to the effect that high-speed competition still requires a considerable amount of attention, it is a matter of wisdom that the A. A. A. should again place this form of the sport in the hands of a board giving it entire attention. But at the same time this board could well be one composed for the most part of manufacturers interested in racing, and this board might also be given authority to select its own chairman and secretary. Make membership on it open to any manufacturer who would agree in advance to compete in one or more of the year's big events.

In order to convince the public that the acts of this board were subject to amendment, and, if necessary, annulment, a disinterested board of appeals could be established, for the purpose of passing upon any complaints that may arise in the conduct of the sport.

There is no logical reason whatever for any "war" over the control of the sport, for such a proceeding will be detrimental all around, and this would prove as disastrous as it would be costly and utterly unnecessary. There must be government, and racing should be one of the A. A. A. departments, even though it might be conducted on different lines in the future than in the past. Conditions change, and unquestionably conditions have changed in relation to high-speed racing. Common sense and a get-together program should be the outcome.

* * *

THE CALL FOR UNIFORM AUTO LAWS.

What seems to be a promising beginning in the direction of uniform automobile laws has been made through the instrumentality of Governor Hughes of New York State, which beginning is told in this issue in the presentation on another page of the first draft of a law prepared and being considered by the Commissioners on Uniform State Laws of New York, New Jersey and Connecticut. While this measure may be more or less modified before it finds permanent lodgment on the statute books, the chances are not unlikely that in slightly revised form it will become a reality in the States mentioned and in other commonwealths where there is a desire to treat fairly with those automobilists who are deserving of just consideration in the framing of the law.

THE SENATE OF A GREAT COUNTRY!

WASHINGTON, D. C., Jan. 24.—Because the item read "for the purchase of a horse and carriage, *or other vehicle*," the United States Senate has refused to sanction an appropriation for furnishing the Speaker of the House of Representatives with carriage service during his official term. In rejecting the item several senators got into a very heated argument about automobiles, Senator Bailey, of Texas, and Senator Bacon, of Georgia, being particularly caustic in their arraignment of the automobile, while Senator Warren, of Wyoming, warmly commended it. Senator Warren called attention to the fact that on his big ranch in Wyoming automobiles were almost indispensable in rounding up lost cattle, and because of their speed and adaptability they were far superior to horses for this purpose

Senator Bailey tearfully told the Senate that the automobile was an abomination and that its use on the public highways should be curtailed, if not abolished. The introduction of automobiles into the government service, he said, made it appear that the government was trying to drive the horse, one of the farmer's mainstays, out of business. Senator Warren responded to this by saying that while the use of automobiles was daily increasing by leaps and bounds, the prices of horses in the market had not been lowered.

Senator Bacon, while agreeing with everything his Texas colleague had said about the automobile, stated that Congress should not stand in the way of progress. The automobile, he said, had apparently come to stay, and while he was opposed to them on general principles, still if they were found efficient the government should adopt them wherever practicable.

The appropriation was finally voted down on the ground that it was unwise to provide government officials with vehicles at the public expense. It should be understood that this does not apply in the case of the President of the United States, to whom is given an appropriation every year of $25,000 for the purchase of horses and the maintenance of the White House stables.

While this debate was in progress in the Senate, the House was devoting some time to the consideration of the item of $12,000 in the urgent deficiency bill for the purchase and maintenance of two automobiles for President-elect Taft. Chairman Tawney, of the Appropriation Committee, informed the House that the item was included in the bill at the express wish of Judge Taft, who desired to replace the White House horses and carriages with the more modern mode of locomotion. Recognizing the utility of the automobile, the House passed the item without question. The Senate Committee on Appropriations, however, killed the item in reporting the bill to the Senate. There is reason to believe, however, that a way will eventually be found to enable Judge Taft to carry out his pet idea of having the automobile as the official White House conveyance.

MOTOR SPEEDWAY WILL BE BUILT.

INDIANAPOLIS, IND., Jan. 25.—Plans for the motor speedway have been completed and construction will start February 15 with the understanding that it is to be completed by May 15. It is the intention to hold the first events on the track some time in June. The outer track is to be oval and will be two miles in circumference with loops winding toward the center, making the whole track five miles long. It will be twenty-five feet wide except at the turns, where it will be thirty-five feet wide, well banked, to allow high speed.

To build the track and promote events the Indianapolis Motor Speedway Co. has been organized with $200,000 capital, with the following officers: President, Carl G. Fisher, president of the Prest-O-Lite Company and treasurer of the Fisher Automobile Co.; vice-president, A. C. Newby, secretary and treasurer of the National Motor Vehicle Co.; second vice-president, F. H. Wheeler, of Wheeler & Schebler, carbureter manufacturers; and secretary and treasurer, James A. Allison, secretary-treasurer of the Prest-O-Lite Company. It is understood that men prominent in automobile circles over the country have subscribed for the stock.

The company has purchased 320 acres of land on a flat plateau about three miles northwest of the center of the city.

LATEST IDEAS CONCERNING BRIARCLIFF.

IN deciding upon the rules for a stock chassis race difficulties are always encountered, and it appears that the Manufacturers' Contest Committee is having the usual trouble in trying to formulate regulations for the holding of the Briarcliff Trophy race that will be generally satisfactory. Three meetings have now been held in the course of six weeks, and three radically different sets of rules have been promulgated, the last practically reverting to the original regulations under which the race was run in the Spring of 1908, with the very important difference, however, that it is proposed to eliminate the stock chassis feature altogether. The last meeting was held at the A. C. A. on Monday of the present week and resulted in the increase of the bore limit to 5 3-4 inches, which is the equivalent of last year's limitation that the total piston area of a four-cylinder motor should not exceed 103.87 square inches. But coincident with this concession to those prospective entrants who built large motors for last year's event, all restrictions on the stroke and weight have been done away with, placing the contest on exactly the same plane as the Vanderbilt race or the Grand Prize of the A. C. A. and entirely eliminating its stock features. These changes, however, are subject to the approval of the donor of the cup, W. W. Law, and they will be submitted to him before being officially adopted.

That the stock car idea was not killed without at least one defender rising in the attempt to save it, is evident from the protest of George H. Strout, representing the Apperson interests at Monday's meeting. While the fact that the Apperson Brothers Company had already gone to the expense of making patterns conforming to the rules previously adopted would not cause them to lose interest in the race, even though the new rules made the patterns worthless, Mr. Strout strongly contended that the engine should be such as to permit the manufacturer to turn it to some commercial use as a type for the following year. The day of the motor with a 5 3-4-inch bore and an exaggerated stroke, as a stock proposition, was past, asserted Mr. Strout, and he accordingly tried to have the conditions fixed so as to place a limit on the stroke, or to have a piston displacement limit set that would not permit engines with a stroke greater than 6 inches. He was, however, overruled on both points. This naturally carries with it the elision of the "ten similar cars" clause of last year's regulations.

QUAKERS DON'T LIKE THE DECISION.

PHILADELPHIA, Jan. 25.—Basing its decision on the absence of any rule governing the case in the conditions of the Quaker City Motor Club's New Year's endurance run, and on the claim that permission to unload passengers in slippery places where traction could not be obtained had been verbally granted by one of the club officials, Chairman Frank B. Hower, of the A. A. A. Contest Committee, to-day sent a communication to President P. D Folwell, of the Q. C. M. C., sustaining the protests of the entrants of Premier car (No. 21), Ray MacNamara driver, which had been disqualified for disembarking its passengers in the effort to reach the top of ice-covered Grant's Despair on the second day of the contest.

As a result of the recognition of the Premier claims the Quakers are fighting mad. They say the A. A. A. has no organized set of rules governing endurance runs, and in such absence the club formulated a set of rules of its own which the contestants were bound to live up to, and that the A. A. A. had, therefore, no jurisdiction in the matter; that even with its disqualification removed, the Premier can finish no higher than fourth place, owing to its accumulation of checkers' and observers' penalties; that the Matheson people have the cup and will doubtless keep it; and, finally, that if necessary to the upholding of its right to formulate and carry out its own rules (in the absence of any national regulations) it shall be found advisable to break away from the A. A. A., the club may even resort to such an extreme measure rather than stultify itself in the eyes of the motoring world. Meanwhile the Quakers have formally notified

Frederick H. Elliott, the A. A. A. secretary, that they are preparing an appeal to the national body's executive board, the basis of which will be that Chairman Hower's committee has no jurisdiction in the matter.

W. K. VANDERBILT, JR., GOES TO EUROPE.

William K. Vanderbilt, Jr., donor of the famous cup and president of the Long Island Motor Parkway, sailed for Europe on Saturday last for a more or less extended vacation abroad. While various rumors have been current anent the recent Vanderbilt Cup race, the latest news is to the effect that the bills in connection with that affair are now being taken care of by the Parkway Company, which in reality assumed the obligations in connection with the race. This came about because the Nassau County authorities refused to accept any bond except that of the Parkway Company, which owned real estate in the county.

The Parkway plans for the future seem to be somewhat in doubt, but the indications are that ultimately work will be resumed. Nothing can be prophesied at this time as to any 1909 race for the Vanderbilt Cup, but it is hardly probable that this famous trophy will be allowed to drop out of sight.

FLORIDA BEACH RACES, MARCH 23 TO 26.

According to "Senator" W. J. Morgan, who has been connected with the Florida race meets for some years and will again manage this year's meeting, the indications are that March 23 to 26, inclusive, will see a successful program of events. F. D. Stidham, who is in Florida looking over the ground, has wired that the Florida East Coast Automobile Association has succeeded in raising sufficient money to insure the success of the meet. The name of Charles G. Burgoyne, of New York, has been added to the list of contributors with a donation of $500, and this, together with the other offers of prizes, either in the form of money or plate, makes certain that each event will be worth competing for. The majority of the races will be for short distances, with the exception of the 100-mile race for the $2,000 Minneapolis cup and the 200-mile stock car event, with $1,000 in cash prizes, as well as the trophy.

EFFORTS TO FORM NEW RACING BODY.

During the Garden show several meetings were held by representatives of several American firms and importers, looking forward to the formation of a new body to look after high speed racing participated in by those represented. Nothing definite seems to have been decided upon, but another meeting is called to take place during the Chicago show, at which time something more tangible, it is asserted, will be forthcoming. The situation is somewhat confusing, some believing that the A. A. A. has made a mistake in involving high speed racing with touring and other similar contests, while others contend that this arrangement should be tried at least for the present year. Indications are that those who supply the entries are inclined to have something to say in the conduct of this branch of the sport.

HART O. BERG ARRIVES IN AMERICA.

Hart O. Berg, business partner of the Wright Brothers, arrived Tuesday on the *Kaiser Wilhelm der Grosse*. He is most enthusiastic about the aeroplane outlook abroad, and states that the Wright brothers have made an unqualified success.

It is not probable that Wilbur Wright will compete in the Monaco aeroplane races. He hopes to conclude his present work in Southern France in time to return to America early in June.

SUIT SETTLED OUT OF COURT.

HARTFORD, CONN., Jan. 25.—The suit of L. D. Parker against the Hartford Rubber Company has been settled out of court. The suit involved a five-year contract and letters patent, with salary figures of $35,000 a year.

TIRE COMPANIES HOLD MEETINGS.

AKRON, O., Jan. 23.—At the annual meeting of the B. F. Goodrich Company the old board of directors and officers were elected. The directors are George W. Crouse, George T. Perkins, B. G. Work, Frank H. Mason, Elmer Shaw, C. C. Goodrich, and H. E. Raymond. The officers chosen by the directors are as follows: President, B. G. Work; chairman of the board of directors, Col. George T. Perkins; first vice-president, Frank H. Mason; second vice-president, H. E. Raymond; secretary, Charles B. Raymond; treasurer, W. A. Folger. The reports of the officers showed one of the best years in the company's business, and an especial growth in the automobile tire department. Big additions to the plant are being made. One of the changes in the managerial department is that of W. E. Hemenover being made assistant general superintendent to succeed H. E. Joy, who was advanced to succeed C. C. Goodrich, resigned, as general superintendent. Hemenover is a comparatively new man in the plant, coming from St. Louis four years ago to be manager of the boot and shoe department.

At the annual meeting of the Swinehart Tire & Rubber Company the following directors were elected: J. A. Swinehart, B. C. Swinehart, C. O. Baughman, J. W. Rock, W. S. Frank and M. S. Rudgers. The directors elected officers as follows: President, J. A. Swinehart; vice-president, B. C. Swinehart; secretary and treasurer, C. O. Baughman. According to reports of the officers, the output of the plant will be doubled this year, although no definite action was taken at the meeting to increase the capacity of the plant.

The annual meeting of the Mansfield Rubber Company, which is just starting a plant to manufacture tires and casings, resulted in the stockholders naming F. A. Wilcox, C. H. Walters, L. Hautzenroeder, H. Homberger, F. M. Bushnell, and W. H. Bissman as directors. F. A. Wilcox was elected president and general manager; C. H. Walters, vice-president and superintendent; F. C. Walters, secretary; F. M. Bushnell, treasurer. The business being booked indicates that the plant will be kept busy from the start. Already three car loads of machinery have been installed, and the plant is expected to start by March 1.

THE AUTOMOBILE TRADE DIRECTORY.

For its first quarterly issue of 1909 "The Automobile Trade Directory" has a most complete list of all concerns interested in any way in the automobile industry, which means that the book is fat and prolific of facts. Its 500 pages, which is an increase of 60 pages over the previous issue, include a complete list of the manufacturers of all kinds of automobiles, motorcycles, motor boats, and parts and accessories; in fact, anything from a cotter pin to a complete chassis. There is also a complete list of all makers of machinery tools and equipment for factories, garages, and repair shops. The indices to these classifications require ten pages, two columns to the page, and covers some 2,000 articles. There are also 65 pages of valuable data and tables for engineers, which are alone worth the full price of the volume, including as they do all features of design of engines, clutches, bearings, and chains, together with such additional amplificatory material on weights and measures, physical properties of materials, wheel, tire, and rim dimensions as would be useful and necessary. "The Automobile Trade Directory" is issued by the Class Journal Company at 239 West Thirty-ninth Street, New York City.

CORBIN PLANT IS RUSHED WITH ORDERS.

NEW BRITAIN, CONN., Jan. 25.—An enormous demand for Corbin cars is reported by the Corbin Motor Vehicle Corporation, and in the near future the plant will have to begin running day and night in order to fill the orders which were booked before and during the recent Garden show. A large addition to the working force has been made, and it is stated that the motor vehicle department of the Corbin Corporation will be continued as heretofore, though various rumors have recently embodied statements to the contrary.

OREGON BUYING AUTOS, WANTS SHOW.

PORTLAND, ORE., Jan. 25.—Speaking of progress, some of the far Western cities have made such great strides in the past few years that they hardly dare to tell of it, for it will not be believed. Thus, Portland, which in 1900 had a population of 91,000, has to-day an increase of 200 per cent. to add to those figures. In the line of automobiles the increase has been more rapid than that, and the city hopes to have the greatest number of machines in relation to its population of any city in the United States. The figures on this are of absorbing interest to those interested in statistics.

Six years ago there were not more than 20 automobiles here. The following year this jumped to 45, an increase of 125 per cent. in one year. The year after that the good work was continued. a rise of 100 per cent. being chronicled. As another twelve-month rolled around the figures chalked up were 227 per cent., 295 machines total; 1907 showed these at 600 machines, a trifling increase of 107 per cent, while the figures for the past year reach to 1,100. While this is only 83 per cent. more than 1907, it represents an increase over 1903 of no less than the stupendous total of 5,400 per cent.

So, with an increase in interest of that sort, an automobile show came next in order, and the first annual Automobile Show, given under the auspices of the Portland Automobile Club, will be held in the Armory from March 8 to 14. This show will be to the Pacific Northwest what the New York show is to the East and Chicago is to the Middle West.

A. C. OF PHILADELPHIA POSTING SIGNS.

PHILADELPHIA, Jan. 11.—Snow and ice do not curtail the activities of the Automobile Club of Philadelphia on its chosen line. During the month of December, 22 mileage and 11 direction signs were posted on the Philadelphia-Gettysburg route, and the Routes, Maps and Tours committee announces that it is preparing to publish the result of its last eighteen months' work in book form; these books will not only be distributed to members, but will be placed on sale for the benefit of the general motoring public. As they include data for all the well-traveled roads running out of Philadelphia, extending to Western Pennsylvania, New Jersey, and even as far as New England, these routes will prove valuable to the automobile tourist.

S. Boyer Davis, club counsel, is rounding up all A. C. of Philadelphia members, who have suffered from applications of Jersey justice during the past six months, hoping in this way to discover what has become of numerous fines which have been imposed by certain justices in that State, but which have as yet failed to reach the treasury at Trenton, as the law requires. The investigation will be pushed with vigor.

JERSEY CLUB DATE FOR ANNUAL BANQUET.

NEWARK, N. J., Jan. 25.—It has been decided by the special committee appointed to manage the annual banquet of the New Jersey Automobile and Motor Club, that the event shall be held in Krueger's Auditorium, Thursday evening, March 18. The committee of arrangements consists of H. D. Bowman, chairman; A. B. Le Massena, James R. English, W. C. Crosby, J. H. Wood, W. S. Sheppard, George Simonds, H. A. Bonnell, G. O. Groebe, C. W. Baker and Albert Schurr.

INTERESTING LECTURES AT THE A. C. A.

Following a special meeting of the club on Tuesday evening at the Automobile Club of America two interesting lectures were given, one by Roger B. Whitman, whose subject was, "The Magneto as a Source of Current for High Tension Ignition Systems," and the other by Henry Cave, who gave "A Demonstration of the Autogenous Welding as Applied to the Manufacture and Repair of Automobiles." The attendance was excellent.

POPE-TOLEDO TO BE APPERSON-TOLEDO.

TOLEDO, O., Jan. 25.—After many rumors to the effect that the plant of the Pope Motor Car Company had been sold to various purchasers, the announcement that it has been transferred to new owners is now made definitely. A syndicate of capitalists, headed by Richard D. Apperson, vice-president of the American National Bank, of Lynchburg, Va., has acquired control, and will shortly begin to operate the plant at its full capacity.

The company will be known as the Apperson-Toledo Motor Car Company, and its product will also be known as the Apperson-Toledo car, these changes in name being the only ones occasioned by the new management. The company has been operating on a reduced scale during the two years it has been in the hands of a receiver, and in that time Harold Pope, one of the receivers, has managed to liquidate a large part of the outstanding liabilities.

The similarity of names at first gave rise to the impression that the purchasers were the Apperson Brothers, of Kokomo, Ind., and that their intention was to consolidate the two plants. The new purchaser of the plant, however, cannot claim any relationship or connection with the pioneer automobile builders, and stated that the plant was not acquired with a view to any consolidation.

MAXWELL-BRISCOE MOTOR CLUB ORGANIZED.

Seldom has any automobiling organization come into existence with such an impressive list of charter members as that of the Maxwell-Briscoe Motor Club, for when the latter sprung into being as the result of the meeting held in connection with the annual reunion of Maxwell supporters at the Hotel Manhattan during the Palace show, the new club had no less than 349 members. The officers are:

President, H. A. Hover, Spokane, Wash.; first vice-president, Hon. P. T. Barlow, New York; second vice-president, J. D. Schofield, Dallas, Tex.; treasurer, H. B. Worthen, Brooklyn; secretary, Ernest Coler, New York. The directorate is composed of the foregoing officers, with Frank Bropst, New York, and Dr. F. J. Spargur, Cleveland, O.

There is also a woman's division, headed by Mrs. J. R. Ramsey, Hackensack, N. J.; first vice-president, Mrs. Lillian Gillespie, Poughkeepsie, N. Y.; second vice-president, Mrs. E. P. Gresh, Norristown, Pa.; secretary, Mrs. L. C. Norton, Highstown, N. J.

From the fact that the officers hail from all parts of the country, it will be seen that the club is to be truly national in its scope. Mr. Hover is soon to renew his round-the-world trip in a Maxwell car.

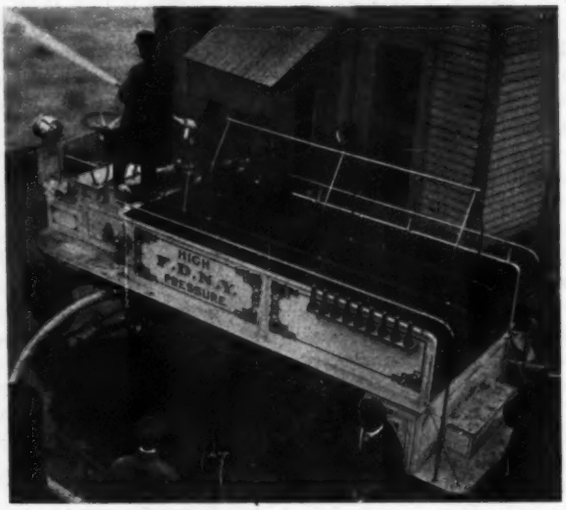
PREMIER MAKING MORE CENTURIES.

Not satisfied with its already creditable record of something like 15,000 miles, the Premier 100-Century car is again on the road between New York and Chicago, driven by Ray McNamara, with J. P. Slack in the other seat. This car with the same driver started its famous career during the Summer, when it competed in the Glidden contest and afterward continued to make at least 100 miles a day for 100 days, ending up with over 12,000 miles to the good. After passing a severe examination in Chicago for mechanical troubles, of which none was reported, the car has been on the road almost continuously ever since, making trips from city to city or taking part in various endurance contests. In December it was driven East and took part in the two days' endurance run of the Quaker City Motor Club from Philadelphia to Wilkes-Barre and return, finishing with a perfect mechanical score.

In order to be on hand for the opening of the Chicago show, opening next week Saturday, the car left Times Square Monday morning well prepared to battle with all sorts of road conditions. The company wishes to demonstrate that after going through the severest of tests to which this car has been put, and without any vital repairs of any sort, it is still in condition to make the trip to Chicago over the Winter roads.

A STRIKING EXAMPLE OF THE NEW FIRE WAGONS

ONE of the most noticeable, if not the most noticeable, feature of the commercial situation is that in respect to fire fighting apparatus. The progress made in the past few years in this line simply cannot be overstated. This progress is perhaps of two kinds, the actual or physical progress shown in the wagons actually put out into service, and the moral progress not so well shown; in fact, it might almost be said to be hidden. As the latter is the real cause of the former, it will be best to speak of it first of all.



Trying Out the Knox Hose Wagon on a New York City Dock, Foot of Gansevoort Street.

A few years ago the fire departments as a whole opposed the self-propelled wagons in every possible way, from the chiefs through the ranks down to the very lowest hostlers. Gradually through the involuntary progress of the pleasure cars in speed, refinement, capability, steadiness and reliability, but principally the last named, the firemen were won over. This movement gained in strength and spread upwards and outwards, until to-day all fire department men are enthusiastic in their praise of the work already done, and loud in their clamor for more and still more motor-propelled apparatus.

There have been a few companies awake to this movement, and they have carefuly catered to the existing demands, until a large business has been built up in this line. Foremost among these manufacturers has been the Knox Automobile Company, of Springfield, Mass. This company has recently turned out a high-pressure hose wagon for New York City.

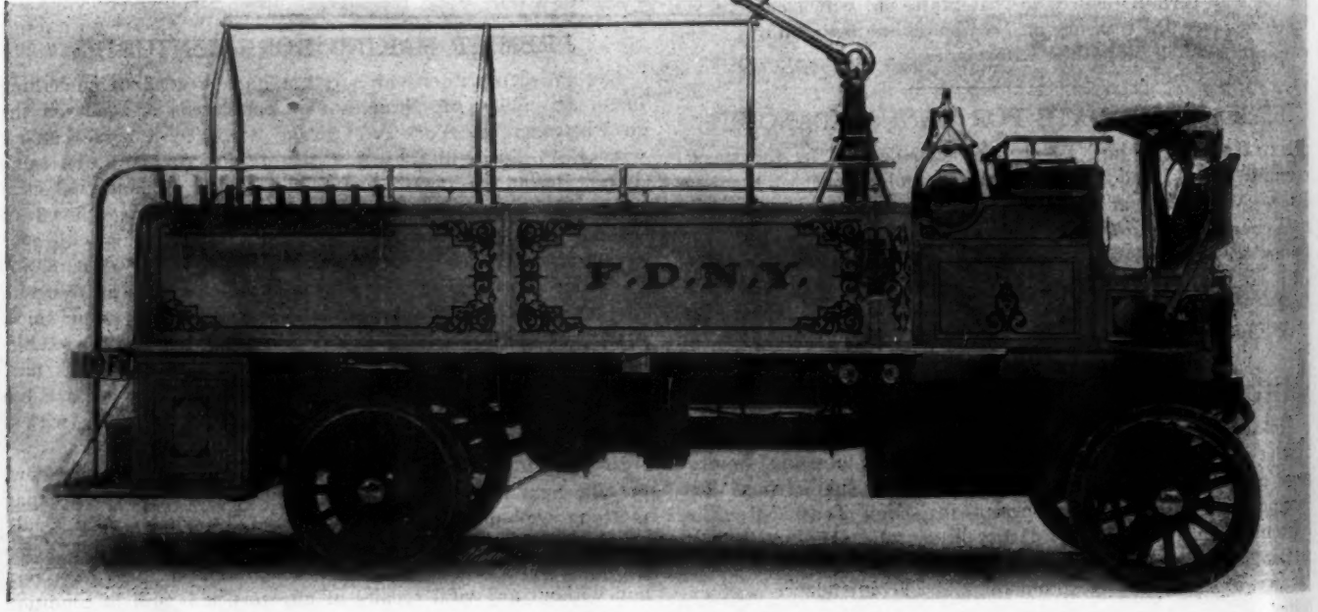
From the factory the wagon was taken to fire headquarters in Springfield and inspected by the Fire Commission and other fire officials. It was then brought over the road to the New York show, following which it was placed in active service.

Fire apparatus in New York City has considerably more to contend with than has that of any other large city, consequently this truck is most characteristic of what heavy fire wagons must be. It is a combination hose wagon and water tower, this latter feature being a large iron pipe in the rear of the driver's seat, into which there are directed four pipes, with outlets and couplings on either side of the truck, just below the driver's seat. Four streams, when converged into the one pipe with a powerful nozzle, will furnish a stream with force enough to throw 25 feet higher than the most powerful water tower.

This wagon will see a different kind of service from the usual type of fire apparatus with motor power in that it will be constantly in action, the engine being required to drive the wagon from place to place and into different positions, according to the progress of the fire and the necessity for the tower.

The chassis for this truck is the regular model 18, five-ton truck, with a maximum road speed of 12 miles per hour. The rated load capacity is 8,000 pounds; wheelbase, 149 inches; tread, 57 inches; tires, solid rubber, 36x4 inches front and 36x4 dual rear; front axle, four-inch I-beam; rear axle, 2½ inches square; Timken roller bearings for all road wheels; five-inch channel steel main frame, four-cylinder, water-cooled 60-horsepower engine, double ignition dry cells and magneto, selective type transmission, three speeds forward and one reverse, double chain drive, foot brake applies on countershaft and hand brake to hubs of rear wheels; semi-elliptic springs, three inches wide, length 40 inches front and 50 inches rear; DeDion system of lubrication from a well in the crank case.

The body of the wagon is known as an iron body, although the floor and partitions are of wood. It is 13 feet 8 inches long, 68 inches wide and 24 inches high. The inside of the wagon is so



High-Pressure Hose Wagon Built for the Fire Department of New York City, by Knox Automobile Company.

divided that there are three compartments suitable for folding 350 feet of hose in each compartment, or 1,050 feet in all, the hose being three inches in diameter and extra heavy. The floor of the wagon is made of slate, with a space underneath for the circulation of air. Under the body of the wagon there is a tool box, and on each side and hanging from the rear are steps wide and long enough to accommodate many firemen.

There are brass and nickel plated railings on the seat and along the sides of the wagon, as well as one railing running the length of the wagon, through the center. A locomotive type of bell is swung between stanchions in the center of the wagon. Fastened to the driver's seat there are three tarpaulins for covering the hose, each being the width of the hose compartment.

The turret pipe, which is the most important part of the body, is located two feet from the driver's seat and in the center of the body. It is a four and a half inch iron pipe and high enough so that when the nozzle is attached the distance from the floor to the tip of the nozzle will be seven feet. Pipe connections extend from the sides of the wagon to the turret pipe and are fitted with three-inch, three-way siamese connections. Four hose connections can be made, so that four streams of water will be thrown into the turret pipe, or if needed four siamese connections can be made to the regular number of connections in such a way as to allow eight streams of water to be turned into the turret pipe. The 18 nozzles that go with the wagon are in three sizes and are carried on holders, nine in a row on each side of the wagon. The running gear of the wagon is maroon, broad gold stripe and salmon colored fine line. The wagon body is white with red stripe and presents a fine appearance, the long body and wheel base giving it a very powerful look.

At the close of the Garden Show the vehicle was driven to the general shops of the fire department for official inspection and later from there to the testing ground at the foot of Gansevoort street. There, under the direction of Commissioner Whitney and Chief Croker, the fireboat *Thomas Willet* supplied it with two streams of water under 300 pounds pressure. The test, shown in the accompanying illustration, was very successful and doubtless other similar fire wagons will be added later.

EXPRESS SERVICE IMPROVED BY MOTOR TRUCKS

THROUGH express from the West now is delivered in New York City just twenty-four hours sooner than it was before the Adams Express Company placed a truck in night service. This truck, which is one of the fourteen Packard trucks used by the Adams company in the metropolitan district, runs between the Jersey City dock, garage and distributing station on West 47th Street, station on 124th Street and its Brooklyn depot. The service which it renders through the night allows the actual delivery of Western express packages one day in advance of the previous schedule.

This company was one of the first advocates of motor wagons. Its experience in motor traffic started with steam wagons, which were discarded in favor of electrics. A number of the latter are now used extensively in several cities. This work in the development of motor service has been due to a firm belief in the eventual supersedure of horses for business hauling. The volume of business in New York and other large cities is increasing so rapidly that the old system will soon be rendered absolutely inadequate. Not only has the routine delivery and collection work on established routes become steadily greater, but more territory has to be covered, and this territory will continue to increase. Consequently, motor trucks hauling heavy loads over comparatively long distances will greatly increase efficiency and effect economy.

The recent installation of Packard three-ton trucks is obviously the beginning of an extensive installation of gasoline wagons in New York and other cities. The company's practice speaks particularly well of the Packard trucks, because of the eighteen installed, fourteen are Packards, either the ones just put into service or the smaller trucks which have been doing such good work that they will be continued. The express company has gone about the maintenance of its gasoline trucks in a thorough and practical manner. At 242 West 47th Street there is a special garage of concrete construction, with storage room, repair shop and a staff of mechanics, under the charge of a superintendent of garages, who directs the care of the trucks and plans their usage. Most of the drivers were broken in to the work by the Adams company and constitute a more carefully trained corps than is ordinarily encountered.

"VAN" TO MANAGE CHICAGO KNOX BRANCH.

CHICAGO, Jan. 26.—Arrangements have been consummated whereby N. H. Van Sicklen, well known throughout the industry and the former owner of "Motor Age," will take charge of the Chicago branch of the Knox Automobile Company. Mr. Van Sicklen will assume active charge February 1, and he is busy making extensive arrangements for Knox representation, to include both the pleasure and commercial vehicles manufactured by the company.

Two of the Fourteen Packard Trucks Now in Active Service for the Adams Express Company, in New York City.

GERMAN BEARINGS MAKER VISITS AMERICA.

One of the interested visitors to the Garden show last week was Ernst Sachs, technical head of the great German firm of Fichtel & Sachs, of Schweinfurt, Bavaria. Herr Sachs expressed himself as greatly impressed by the phenomenal growth of the automobile industry in America during the past few years, and remarked that, although the rapid increase in his own export business to this country had prepared him to find automobiles extensively used here, the reality amazed him. Both in its magnitude and in the high degree of excellence achieved by American designers, he pronounced the American automobile industry to have far surpassed anything he ever dreamed could be possible.

In view of the very extensive adoption by American automobile builders of the product of Fichtel & Sachs, it is interesting to note that this firm operates to-day the largest factory in the world devoted to the manufacture of ball bearings, their daily output of about 12,500 ball bearings of all types exceeding that of any other single manufacturer. Of the 20,000 souls making up the population of Schweinfurt, over 2,000 are employed in the F. & S. ball-bearing factory, and 800 in the allied factory where the steel balls are made. Some idea of the magnitude of the plant may be gathered from the fact that the bearing factory uses 1,750 horsepower and the ball factory 800 horsepower, and in the latter plant there are 2,000 machines for grinding balls. Of the total product of balls and bearings, about three-quarters is used outside of Germany—France, England and America being the largest foreign consumers.

Fichtel & Sachs are owners of some of the most valuable patents extant on the subject of ball bearings, including the basic Kouns patent on the side-entering slot, the Sachs patent on the diagonal side-entering slot, and the Blin patent covering the use of side-entering slots shallower than the ball paths. Under the Blin patent the balls are sprung in under pressure, and when once in never again touch the side slots. This permits practically the entire race to be filled with balls, and all F. & S. annular ball bearings are now made under this patent. It is understood that some questions which have arisen in connection with these patents have had something to do with Herr Sachs's visit.

FRANKLIN SALESMEN'S SEMI-ANNUAL.

SYRACUSE, N. Y., Jan. 25.—The traveling salesmen of the H. H. Franklin Manufacturing Company have just completed their semi-annual conference at the company's factory, reviewing conditions in the automobile trade for the past six months and discussing plans for more than a year ahead. There was a unanimity of belief that an enlarged prosperity would be shown during 1909, both in the manufacture and sale of cars and in practically every other line of business.

During the sessions the salesmen were addressed by Vice-President G. H. Stilwell, on "The Franklin Company's Position in the Association of Licensed Automobile Manufacturers"; by Treasurer H. B. Webb, on "The Season of 1908 from a Financial Viewpoint"; by Manager J. G. Barker, of the sundry department, on "Sundry Matters"; by Manager J. E. Walker, of the advertising department, on "What We Are Doing to Help Sales by Way of Advertising," and by Sales Manager F. R. Bump, on "Our Policy for 1910."

ROBBINS FOR CHICAGO OAKLAND BRANCH.

CHICAGO, Jan. 25.—A branch house has been established at 1725 Michigan Avenue, by the Centaur Motor Company, of Buffalo, general selling agents for the Oakland Motor Car Company, of Pontiac, Mich. This is the location formerly occupied by the Rainier Company. Arthur M. Robbins, formerly with the Aerocar Company, of New York, and later with the Rainier people of Chicago, will have charge of the new branch. Mr. Robbins is one of the pioneers in the automobile industry and is well known. This branch house will have full charge of the sale of Oakland cars in Chicago and immediate vicinity, as well as carrying a full supply of repair parts.

AUTOMOBILE TAKES TALLY-HO'S PLACE.

PHILADELPHIA, Jan. 25.—The next fortnight will witness a recrudescence of the old tally-ho and post-road days between this city and New York, only instead of the coach-and-four, with relays of horseflesh every ten or dozen miles, the vehicles to be used will be Acme touring cars, the enterprise being backed by the Acme Motor Car Company, of Reading, Pa. The Bellevue-Stratford Hotel, in this city, and the Waldorf-Astoria, in New York, will be the termini of the new line, and the round trip will be made in two days. It is proposed to begin operations with but one car, and add others as the increase of business renders it necessary. The fare for the round trip will be $20. The scheme originated with President H. W. Sternbergh, of the Acme Company, who is very enthusiastic over the outlook.

W. H. BARNARD NOW HEADS IMPORTERS' SALON.

NEW YORK, Jan. 25.—At the annual stockholders' meeting of the Importers' Automobile Salon, held at the headquarters of the association in the Bryant Arcade Building to-day, W. H. Barnard, of the Delahaye Import Company, succeeded André Massenet, of the Panhard Company, as president. Mr. Massenet held that office during the past year, but declined a renomination, and Mr. Barnard, who served as vice-president last year, was unanimously elected.

The other officers chosen were: Vice-President, Paul Lacroix, Renault; treasurer, Walter C. Allen, De Dietrich; secretary, E. Rand Hollander, Fiat. Besides the officers the following were elected to serve on the board of directors: Harry Fosdick, Lancia; A. C. Andrade, Jr., Isotta, and Julian Block, C. G. V.

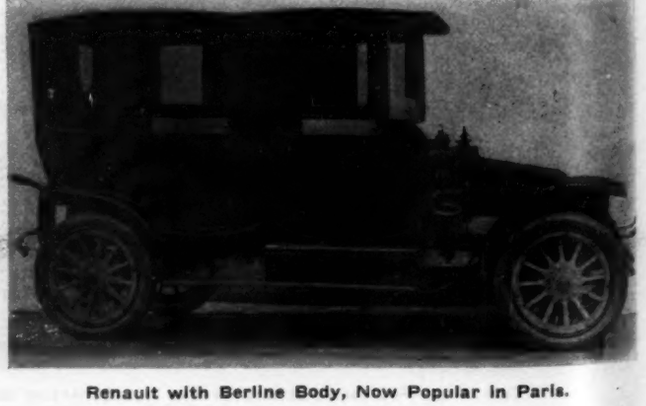
Walter C. Lee was reappointed general manager. Although the past year has been the most trying one that the importers have had, the report of the treasurer showed the association to be in excellent financial condition.

RENAULT LEADS THE FOREIGNERS.

NEW YORK CITY, Jan. 25.—To followers of the American automobile industry, import and export figures are always very interesting. This has been particularly true in the past year or two, so that the recently published figures of the Custom House are of more than passing interest. These figures show that twelve foreign makes of cars have been imported to the number of 735. These include one German, four Italian and seven French cars. The figures are:

Renault, 244; Fiat, 149; Panhard, 89; Mercedes, 89; Isotta, 40; Itala, 24; Hotchkiss, 22; DeDietrich, 19; Lancia, 18; C. G. V., 16; De Launay Belleville, 14; and Rochet Schneider, 11.

In noting the Renault's large lead over the others, it will be remembered that in 1907 this maker also led, but with a smaller number of cars, 214. So the past year shows, at least for this maker, a gain of 14 per cent. These figures also include taxicabs, of which a number have been brought in, particularly for service in this city, where the sloping bonnet of this leading French make is a familiar sight.



Renault with Berline Body, Now Popular in Paris.

News in General

Mrs. K. R. Otis, who Made a Notable Midwinter Trip from New York to Boston and Return, in Stearns Car.

Round-the-World Tourers in Republic Wreck.—H. A. Hover and wife, the transcontinental tourists from Spokane, Wash., reached the East coast after an uneventful trip and sailed on January 22 on the ill-fated *Republic*, which was wrecked. Nothing daunted, they will make a fresh start on another boat and pick up their car, which was forwarded on another steamer, on the other side. Their present destination is Algiers, where they will resume their trip around the world. They are making their trip in a four-cylinder 30 horse-power Maxwell touring car, with an equipment consisting of a tent and the necessary utensils for camping, as the countries where they are going are such that it will be necessary for them to pass many nights without shelter of any kind. In all, they have already traveled 7,000 miles in this country.

100,000 Miles on 1909 Warner Odometer.—The Warner Instrument Company's odometer for 1909 will show a season total of 100,000 miles instead of 10,000, as stated in our January 7 issue. In the past most speedometers for mileage recorders have shown only 10,000 miles, but letters received from many car users indicate season mileage of 30,000 and 40,000 miles, thus necessitating a larger instrument. This new model, as well as all others, will have the new shaft and simplified drive. This is a pressed-steel, hand-riveted, hardened-shaft which will make but one-half the number of revolutions made in former instruments.

Tom Lynch's New Job.—The automobile owner will be insured a better tire by more thorough tests on the part of manufacturers, so it is a source of pleasure to chronicle the announcement that many makers are establishing a new department of tests to take care of this work. The latest announcement in this line comes from the Continental Caouchouc Company, which has placed the well-known automobile driver and racing man, Tom Lynch, in charge. Each style of tire will be tested out on a Lozier Briarcliff model, covering from 100 to 150 miles each day regardless of weather.

In Maryland, Not in Indiana.—In the January 14 issue of THE AUTOMOBILE it was stated that the Carter Motor Car Corporation's factory was located at Hyattville, Ind., whereas it is in reality located at Hyattsville, Md.

PERSONAL TRADE MENTION.

William F. Hurlbut, for several years manager of the New York branch of the Packard Company, and until recently president of the Garford Motor Car Company, of New York, recently resigned from the latter office to become connected with the New York representation of the E. R. Thomas Motor Company, of Buffalo. Mr. Hurlbut has just returned from an extended trip abroad. He is planning an active campaign in support of the Thomas interests.

Thomas J. Wetzel, who has been confined to his New York City home for an extended period by an attack of typhoid fever, was one of the visitors of the Garden show who received a very cordial welcome from his friends, as he was very seriously ill, and at one time his recovery was in doubt.

E. T. Birdsall, designer of the Selden car, and who has been chief engineer of the Selden Motor Vehicle Company, Rochester, N. Y., for the past two years, has severed his connection with the concern in question. Mr. Birdsall expects to make an announcement concerning his plans in the near future.

Lawrence C. Fuller, has been appointed general manager of the Philadelphia branch of the Chadwick Engineering Works, of Pottstown, Pa. Mr. Fuller is well known to the trade, having been with Thornton & Fuller, Simplex agents, and with the J. M. Quimby & Co., representatives.

V. M. Palmer, at one time connected with the Hagerstown plant of the Pope Manufacturing Company, has succeeded E. T. Birdsall as chief engineer of the Selden Motor Vehicle Company, Rochester, N. Y. Mr. Palmer entered upon the duties last week.

E. G. Mertens, with the Electric Vehicle Company as a salesman, has severed that connection and will go into business for himself. He has bought an interest in the Glens Falls Auto Company of Glens Falls, N. Y., and at a recent meeting was elected its vice-president.

Edwin B. Finch, formerly in the technical department of the Packard Motor Car Company, Detroit, has resigned and will be with the Chalmers-Detroit Company. He is well known in the trade having at one time manufactured cars.

V. A. Charles, former manager of the Rambler Boston branch, has accepted a similar position with the S. M. Supplies Company in Boston. This firm will open salesrooms at 22 Lincoln street and will have the Midland agency.

A. W. Harris Oil Company, Providence, R. I. | The Keystone Lubricating Company, Philadelphia, Pa. | Havoline Oil Company, New York City.

Three Prominent Lubricating Exhibitors Who Exploited Their Products in the Madison Square Garden Show.

ONE CONCERN'S PUBLICITY.

After a good car has emerged from the factory, it is a necessitated sequence that well directed publicity should proceed and follow in its wake. The proper use of the art of the printer comes pretty close to being a science, and therein E. Ralph Estep, advertising manager of the Packard Motor Car Company, gives evidence of his past experience in the "Art Preservative." Estep usually participates in Packard performances of all kinds, and his material is usually right "off the bat," and apropos.

E. Ralph Estep.

Recent issues from his department include several notable examples. In "Following the Confetti" are pictorially presented incidents in the journey of the Packard official press car on the Glidden tour of 1908. No better advertisement of this year's event could be utilized by the A. A. A. Contest Board than a distribution of this inviting and neatly bound pictorial tale.

"A Family Tour from Ocean to Ocean," by J. M. Murdock, is an account of the 1908 tour of the author and his family across the country in a Packard "30," wherein he expresses appreciation "of my Packard car for its wonderful stability, capability, and reliability."

"The Flight of the Thirty" is the story of an overland dash of 606 miles from Detroit to Chicago and back in the space of 20 hours 35 minutes. Sales Manager S. D. Waldon was the man at the wheel, but Fred Graves relates the story.

Another little pamphlet is devoted to the "Pittsburg to Philadelphia, 14 Hours 1 Minute" performance. Of course, the company issues a calendar, and this, too, is a work of art, with neat sketches of more or less Packard complexion.

NOW PIERCE ARROW MOTOR CO.

When the rumor was circulated at the show last week that Colonel Charles Clifton and all of his associates in the George N. Pierce Company, Buffalo, had resigned from that concern, it spread like wildfire, and as it received the smiling confirmation of Colonel Clifton himself, when he was approached on the subject, it was at first thought to be literally true. What actually did happen was the organization of the Pierce Arrow Motor Company, a corporation formed to take over the entire assets, good-will, and business of the George N. Pierce Company. There will be no change in the business and the officers remain the same, these being: President, George H. Birge; vice-president, Henry May; treasurer, Charles Clifton; secretary, Laurence H. Gardner; the directorate being comprised of the foregoing officers together with William B. Hoyt, so that the change is merely one of name.

In order to provide for the carrying on of the business of the company and to take care of future developments, the capitalization has been increased.

IN AND ABOUT THE AGENCIES.

American and Grout, Philadelphia.—A new company, the Stoyle Automobile Company, has taken the agency for the American car, the territory being Eastern Pennsylvania, New Jersey, New York, Delaware and Maryland. In addition the Grout, made in New England, will be handled. The members of the firm are W. H. Stoyle and Louis Vogel, both well known in Philadelphia. The company has taken the large building at the southeast corner of Broad and Race streets.

Goodyear Tires on Pacific Coast.—The W. D. Newerf Rubber Company of Los Angeles, Pacific Coast agents for the Goodyear Company has completed arrangements to represent this company in British Columbia, Oregon, Washington, Idaho, Nevada, Arizona, Mexico and the Hawaiian Islands. In addition to having large stores in Los Angeles and San Francisco, branches will be established in Vancouver, B. C.; Seattle, Spokane Falls, Pasadena, City of Mexico and Honolulu.

Firestone Tires, Los Angeles, Cal.—A new direct branch has been opened by the Firestone Tire & Rubber Company at 957 South Main street, where the whole of Southern California will be cared for. G. C. Calbetzor, formerly Pacific Coast representative, and Frank R. Talbott, former assistant treasurer, the Akron factory, will have charge.

Benz, New York City.—One of the finest show rooms along that portion of the Great White Way known as Automobile Row, has been fitted up for and is now occupied by the Benz Auto Import Company of America. This is located at 1599-1601 Broadway, where a full line of Benz cars may be seen.

Post & Lester, New England.—Two new branch retail stores have been opened by the Post & Lester Company, Hartford, Conn., at 1085 Chapel street, New Haven, Conn., and 125 Ridge street, Springfield, Mass. Both houses will handle auto accessories exclusively.

New Peerless New York Branch Will Be Imposing.

OBITUARY.

H. F. Kellogg, New England representative of Hoyt Electrical Instrument Works, Penacook, N. H., died at Newton, Mass., January 16. Mr. Kellogg was particularly well known in the industry, in which he had many friends, who will regret to learn of his death.

E. R. Thomas Motor Company's Luncheon to George B. Selden.

At this function E. R. Thomas presented to Mr. Selden the license plate which was carried round the world by the Thomas winner of that event.